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ORIGINAL ARTICLES

THE OPHTHALMO-TUBERCULIN REACTION. OBSERVATIONS ON ONE HUNDRED CASES WITH A SUMMARY OF THE OBSERVATIONS OF OTHERS.*

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There is no subject in the domain of internal medicine that is to-day accorded such special consideration as that of tuberculosis, its diagnosis and its treatment. There is scarcely an issue of any medical journal that does not contain an article upon some aspect of the subject, and many are devoting entire issues to it. During the past year a large amount of work has been done along the line of diagnosis; notably that of von Pirquet on the cutaneous reaction to tuberculin, that of Wolf-Eissner of Vienna, and that of Prof. Calmette, Director of Pasteur Institute at Lille; also that of Valleé on bovine tuberculosis. The experiments of these men are now too well known to necessitate review here.

The diagnosis of this disease is our basic move, and it is its early diagnosis that holds the key at the present time, to its successful treatment. We therefore have given more and more attention to, and should lay hold of any means which will aid in its establishment before the unmistakable clinical signs appear. So I have to report to you some of the results I have obtained with the method described and practiced by Prof. Calmette, as the technique is very simple, and the use of it in the hands of the conservative and observing medical man, can only result in the establishment of a reasonably certain diagnosis, and that with little inconvenience to the patient.

I shall not review the subcutaneous method of the use of tuberculin; although this has fallen into undeserved disrepute on account of

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its injudicious application and indiscriminate injection in large amounts with subsequent severe reaction. As its limitatons are better understood and as we better understand the groups of bodies concerned in the reaction of immunity—that small groups designated opsonins—and particularly when our knowledge is greater concerning the neutralization of substances produced by bacteria, we will more and more come to use these methods of diagnosis and treatment.

As to the cutaneous reaction to tuberculin, it formed the basis of Calmette's observations; it has its advantages and disadvantages. He states (Travail de L'Institute Pasteur de Lille) that observing one of the groups of symptoms making up the application of tuberculin, that is, the reaction at the site of an inoculation, he determined to apply the test to the sensitive conjunctival sac, using therefor a tuberculin free from irritating substances (glycerine and beef extractives, waxes and resins). The results of his first twenty-five cases were given to the Academié des Sciences, June 17, 1907. He has since published his observations in a bulletin of Pasteur Institute. He stated that a "one per cent. solution of purified tuberculin dropped into the eye of a tuberculous patient, gave, in from three to twelve hours, a characteristic reaction, unaccompanied by a rise of temperature or constitutional disturbances of any description; that it was inoffensive to the patient, producing only a slight conjunctivitis which disappears in from twenty-four to forty-eight hours."

In May of 1907, Wolf-Eissner reported the use in the conjunctival sac of a ten per cent. solution, but he stated that the reaction was so severe it would preclude its use in man.

Most of the tuberculin used in my cases was prepared by precipitating Koch's old tuberculin with alcohol, and thoroughly washing and drying. It was then weighed and made into tablets of 3.3 mg. so that one tablet dissolved in .33 cc. (5 m.) of sterile made a one per cent. solution of the percipitate. (I have used several brands of tuberculin: the Parke Davis Tablets or Mulford's solution are as satisfactory as any.) Tuberculin solutions are very easily contaminated and care is necessary in handling it to keep it sterile; it is very essential that it be fresh. The use of the tuberculin solution consists in placing one full minim in the eye at the inner canthus. I have my patients lie down and hold the lid so that the solution will not be squeezed out and that it may be distributed over the lower cul-de-sac. Before making such an application, one should see that there are no contra-indications to its employment. The reaction being of the nature of an inflammatory response, producing sometimes an oedema of both the palpebral and the bulbar conjunctiva, it is contra-indicated in corneal ulcerations, conjunctivitis, etc. In such cases some severe reactions have resulted, and have been reported in the literature. Eye strain is no contra-indication, though Woodcock reports a case, and I had one case of high refractive error which gave a very severe reaction. I have used it in several eye lesions with no ill effects—two of choroiditis and two of old iritis. I have further taken the pre-

caution to have all my cases except four in the hospital, so I could observe the reaction. Careful note should be taken as to the condition of both eyes, for in the most mild reactions it is necessary to compare the two carefully, as the reaction is visible only as a reddening of the marginal conjunctiva and caruncle; vision should be taken and lesions noted.

The reaction will manifest itself by a redness of the caruncle and conjunctiva of the lower lid. There may be some lachrymation or mucofibrinous exudate consisting of leucocytes and fibrin, and chemois of the bulbar and palpebral conjunctiva. The intensity of the reaction will vary, being very slight in most cases though readily observed. Calmette has described a moderately intense form of the reaction; others distinguish three or more degrees, as Aubaret and Lafon. Their classification, though not of importance, is not without value, because it tells one what to look for, and has been used by a number of others in recording the intensity of the reaction. It is simply a matter of degree: The first or mild form is seen as a diffuse redness of the lower tarsal conjunctiva, most marked towards the lid margin, and extending to the caruncle which is sometimes swollen. There may or may not be lachrymation. The subjective sensation is that of a slight smarting and itching. The patient will tell you that he thinks there is a hair in his eye, or that occasionally he feels as though there is something in the eye, but it does not trouble him; that his eye is stuck together after sleep, when you may see an increase in Meibomian secretion. There is no pain or real discomforts and no inconvenience to the patient; still you can observe quite a marked difference when comparing the two eyes.

Smithies and Walker have recorded as positive, a number of slight changes. In my first fifty-four cases I used the same stock of tuberculin used by them; all reactions obtained were of a very mild form, this form constituting the largest majority of positive reactions. They should be examined at frequent intervals as the reaction often disappears after twenty-four hours, though it should be visible at that time or the reaction not designated as positive.

In the moderately severe form the injection described extends over the entire lid, caruncle, and on to the bulbar conjunctiva. There is lachrymation, some exudate, and sensation of foreign body in the eye. One case will nicely illustrate this: The patient stated that an hour or two after the drop was placed in the eye, he felt as though there was a little grit in the eye. Eight hours after the application there was lachrymation and the lower lid was markedly injected, velvety red and somewhat chemotic. After twenty-four hours the lower lid was red, but no other evidence of reaction existed. The lid cleared in the next eighteen hours. Some will remain red for two or three days, there being no unpleasant sensations to the patient.

The intense form of reaction, as Aubaret and Lafon describe it, is marked by intense injection of both bulbar and palpebral vessels. There

is some oedema of the bulbar conjunctiva, the caruncle is red and swollen and covered with a fibrinous exudate. The reaction is at its highest in from six to twelve hours and disappears in from twenty-six to forty-eight hours. I have had several such reactions and one of the very intense form. This patient was a woman with over six diopters of hyperopia; she had a number of night-sweats, and it was thought by her physician that she had tuberculosis. One minim of a one per cent. solution was placed in her left eye. This was done in the morning; that afternoon no signs of reaction appearing, she rode four miles into the country in an open trolley-car. The next morning the condition of her eye alarmed her husband, and he called me to see her. The eye was intensely chemotic; the bulbar conjunctiva was greatly swollen; the skin surface of the lid was red; there was abundant lachrymation and fibrinous secretion; some pain in the brow and the glands on that side of the face were swollen. This extended to the glands of the neck. There was no malaise. While the eye looked to be in a serious condition the patient stated that she was not very uncomfortable. There is one noteworthy fact in this case: The reaction did not appear until late and lasted several days, the chemosis and oedema gradually subsiding. Similar delayed reactions and severe ones have been reported.

The reactions described constitute about all the degrees of reaction I have observed. I would agree with Eyre and others, and regard as a positive reaction, "any redness covering the lower lid and caruncle, coming on in from three to twelve hours after the instillation of the tuberculin, and lasting for twelve hours or more." Less reaction should be called doubtful. All positive reactions should be visible at the end of twenty-four hours. I have had one case in which the reaction came on after twenty-four hours and lasted one day. I marked this doubtful pending a second test; the patient had chronic bronchitis and was gaining weight. The greater number of reactions I have obtained made their appearance in from four to eight hours, lasting twelve hours and disappearing after twenty-four.

I have made one hundred and forty applications of tuberculin. I have had twenty-five cases of undoubted tuberculosis, the diagnosis being positive in all. Nineteen or 76 per cent. of these gave a positive reaction, five negative and one doubtful. Of the five negative, all had pulmonary tuberculosis with large cavities. One man had a large cavity, sputum loaded with tubercle bacilli, was in a fair state of nutrition, and failed to respond to three tests. These cases constituted bone lesions in which the tuberculin test is very valuable, pulmonary and gland lesions, one of tubercular peritonitis. Of the clinically tuberculous the cases were not as satisfactory. Of fourteen clinically tuberculous, six were positive and eight negative. This series of cases is necessarily unsatisfactory and records are not of much statistical value. In forty-five cases of disease other than tuberculosis, and from which we tried to exclude tuberculosis, one positive reaction was obtained in a case of

severe suppurative otitis media, which case probably had tuberculosis. These diseases include pneumonia, tetanus, empyema, chronic bronchitis, and syphilis, etc. The reaction was negative in one case of lupus and in one case of Addison's disease. Among the healthy tested I have obtained no reaction, but Dr. Clayton, of the City Central Hospital, to whom I am indebted for many clinical examinations, obtained a positive reaction in one of our apparently healthy physicians. He applied a minim to the doctor's eye as a control, and was very much surprised to obtain a very positive reaction. While the doctor was in the very best of health, and weighed one hundred and ninety-six pounds, there being no evidence of any tuberculosis, he said that when a boy he was supposed to have been afflicted with it. From the reports of others it seems we sometimes get a reaction in sclerosed lesions, though not as often as with other tests with tuberculin. It is worth noticing that in a few cases of undoubted tuberculosis, bacilli present, there was no reaction. These cases invariably had large cavities in the lungs. In the healthy person in which a positive reaction was obtained, there was a history of tuberculosis years ago.

Dr. Leon Petit, gives a summary of observations in seven hundred and forty cases of positive tuberculosis; six hundred and ninety-eight positive reactions or 94.32 per cent. with forty-two negative cases, while in 938 diseases not tubercular, 173 or 18.43 per cent positive and 765 negative. In the *British Medical Journal,* March 28, 1908, notes of the following summaries are given: 491 cases positive tuberculosis, 463 positive or 94.3 per cent. positive; 610 cases not tubercular, 563 or 92.3 per cent. negative; 106 cases positive tuberculosis, two failed to react.

From published reports so far, there is no evidence to show that there has been a positive reaction in a positively healthy person, although Baldwin and several others have reported slight reactions after repeated instillations. This is to be regarded as a hypersensitization; so, if a negative test is obtained, the second test should be applied to the other eye, otherwise the conjunctiva may become red from repeated instillations.

There have been a few had results reported by Knapp, Woodcock, Ramsey, Weins and Gunter and others, but not as many as we would have expected in the thousands of applications of tuberculin to a surface as susceptible to poisons as the conjunctiva, and in an organ in which small lesions are so often overlooked. The opinion of nearly all who have used the method is favorable, and as its author states, "it is simple, inoffensive, efficacious and elegant." There is a slight discomfort to the patient and your diagnosis, if a positive reaction is obtained, is almost certain and that within a few hours.

It is certainly a valuable aid to diagnosis, and if you use the test, remember a few cases of phlyctenular, corneal ulcerations, conjunctivitis and interstitial keratitis have been reported among the many thousands tested. See that these conditions do not exist before you apply the test,

as some eye lesion has almost always been present where a severe reaction has been reported.

The ophthalmo-reaction is still in an experimental stage. While I think it of great value, only time and repeated reports can fix its place. From the literature, I do not believe it of value in lesions of the eye, as a direct application to a latent foci might produce an activity in it. It has its limitations as have other tuberculin tests and should be used only in properly selected cases.

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EARLY POSITIVE DIAGNOSIS OF TUBERCULOSIS AND USE OF TUBERCULIN IN DIAGNOSIS AND TREATMENT.*

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The positive diagnosis of tuberculosis can only be made with certainty by the demonstration of the presence of the bacillus of tuberculosis. Owing to the staining peculiarities it is possible by the examination of properly made and stained microscopic preparations to make an almost definite diagnosis of the organism. The difficulty in the diagnosis is not met with in the differentiation of this organism from other bacteria, but in obtaining the material in which the tubercle bacillus is present. This last fact is to be accounted for in various ways:

1. Distribution of tubercles in the body, the lesions being found in the lungs, bones, joints, intestines, lymph glands, kidneys, brain, peritoneum, spleen, liver, genito-urinary tract, etc.

2. Distribution of bacilli in lesions, for while they are without doubt present in all tuberculous lesions, yet they are present only in small numbers in some of these, especially in the chronic tuberculous processes.

3. Material from the foci may or may not be giving off tubercle bacilli, by some obstruction the material containing the bacilli may be held back, or part of the discharging material only may contain the bacilli and this material may escape examination.

Because of these various reasons it is evident that bacteriological preparations, made directly from material supposedly from tuberculous tissues or foci, and stained by the methods designed to demonstrate the presence of tubercle bacilli, are not always available or applicable. Direct examination and demonstration of the presence of tubercle bacilli in suspected material by means of the staining reactions, is possible usually only in the sputum and exudates from discharging lesions or from material obtained at operation. Tubercle bacilli can, however, also be demonstrated in urine, feces, milk, butter, etc., but in this case before making and staining slides, usually suspension or centrifugalization are necessary.

Diagnosis of B. Tuberculosis from Sputum Examination. As far as the clinician is concerned the examination of sputum for B. tuberculosis is of most importance. It is not my purpose here to give the methods employed in the making and staining of bacteriological slides; what I wish to emphasize is the interpretation of the findings made by the physician or bacteriologist.

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I have referred earlier to the absence of tubercle bacilli in some of the discharges from tubercular lesions, and to the absence of the organisms in some parts of certain discharges containing the tubercle bacillus. A patient with pulmonary tuberculosis may have an occlusion of the bronchus leading to the lesion; his sputum may contain the bacilli at one time and be absent at another time; or the part of the slide examined may not contain the bacilli. If we consider all of these factors in the positive diagnosis of pulmonary tuberculosis from the examination of the sputum, we can readily see that usually the report "tubercle bacilli not *present*" need not be final. It is far better to state that "tubercle bacilli were not *found*," than to report that they are not present. The latter implies that, taking into consideration the difficulty to find and demonstrate the organism, the bacteriologist desires another specimen of the patient's sputum if the clinician suspects tuberculosis; while the report that the bacilli are not "present" implies that the question is settled and the patient is free from tuberculosis. To avoid this false impression it has been my custom in all cases, from which the clinician has sent me a specimen of sputum for examination, and in which the presence of the tubercle bacillus could not be demonstrated, to report that the organism could not be demonstrated or was not "found," and that I desired another specimen for examination.

Without doubt clinicians frequently get unsatisfactory reports from the bacteriologist; especially is this true when the tubercle bacilli are not found in the specimen of sputum sent for examination. To get the most satisfactory results from sputum examination requires the combination of technique, a history concerning the case and a frank statement by the bacteriologist as to his findings and opinion. In the examination of sputum for tubercle bacilli everything that can be done to facillitate the same ought to be taken advantage of. There are certain points in the method of collection of sputum and preparation of bacteriological slides, which are not always recognized but which if followed would lead to more positive diagnoses of pulmonary tuberculosis, namely:

(a) *Collection of Sputum.* Preferably the sputum discharged in the morning should be submitted to examination. When, however, the amount of sputum is small then the entire amount expectorated in the day should be collected. A wide-mouthed glass bottle, with a tight fitting stopper, should be used to send the sputum.

(b) *Selection and Staining of Material for Examination.* If the sputum is homogeneous there can be little or no selection of material; when, however, this is not the case then the best results are obtained when the sputum is poured onto a flat surface, as into a Petri dish, and the purulent, cheesy, brittle, blood-stained, or gray particles are selected. This material is then spread on at least two glass slides, fixed and stained with Ziehl's carbol-fuchsin. For decolorization a mixture of ninety-seven parts of 95% alcohol and three parts of concentrated hydrochloric

acid are of great service, as this mixture helps in eliminating the smegma bacillus. For a counter stain Wright's stain consisting of one-half gram each of methylene blue and sodium carbonate in one hundred cubic centimeters of distilled water, has the advantage that if the slide is overstained the methylene blue can be washed out with warm water.

(c) *Search for Tubercle Bacilli.* The slides are best searched for tubercle bacilli by means of the mechanical stage. Often it is necessary to spend several hours in the examination of the two slides made and it has been my custom to keep a record of the time spent in the search for the bacilli.

(d) *Methods Employed When But Few Bacilli are Present.* When the examination of the slides usually made, shows no tubercle bacilli, these organisms may at times be brought out by dissolving the mucus, which may be done by boiling the sputum with an equal volume of 2% caustic potash. After this the bacilli are thrown down by centrifugalization. Another method that has been used to demonstrate tubercle bacilli when their presence cannot be demonstrated by the regular examination, is to add nine parts of 5% carbolic acid to one part of sputum, shaking well for some time, then centrifugalizing to throw down the organisms, drawing off the supernatent fluid, and making and staining slides of the sediment. As shaking by hand is a tedious process I have made a shaking machine, the power for which is furnished by the motor of an electric centrifuge. The arms of the centrifuge are taken off and a pulley put onto the shaft. The mixture of sputum and carbolic acid is shaken for a half hour, then the centrifuge arms are again put on and the mixture is centrifuged for from fifteen to thirty minutes at the rate of fifteen hundred revolutions per minute. By this last method it has frequently been possible to demonstrate the presence of tubercle bacilli when they could not be found by the regular method of examination.

Diagnosis of B. Tuberculosis from Exudates and Operative Material. The demonstration of the presence of tubercle bacilli in exudates and material obtained at operation is made from stained slides, cut sections and by animal inoculation. Stains of the bacteriological slides and cut sections, fail at times to bring out the bacilli and the practitioner never ought to be satisfied with negative reports based on such examinations. The importance of animal inoculation cannot be overemphasized for very often the first positive diagnosis of tuberculosis is made in this way.

Diagnosis of B. Tuberculosis in Urine. The examination of urine for the presence of tubercle bacilli is of importance when the urinary tract is involved. Because of the large amount of urine and the relatively few tubercle bacilli that may be present, it is necessary to centrifugalize or sediment out the tubercle bacilli. It is further to be remembered that on the genital organs, the folds of the prepuce and clitoris, and anywhere where there is an accumulation of the secretions of the skin, the smegma bacillus may be present. This organism has

morphological and staining characteristics that frequently make differentiation from the tubercle bacillus difficult. To avoid this difficulty in diagnosis the external genitals ought to be well cleaned and the urine taken carefully. Sometimes the bacteriological method of examination fails, and for urine examinations, animal inocculations are far more important and reliable.

Diagnosis of B. Tuberculosis in Feces. Feces at times contain tubercle bacilli. This does not always indicate an intestinal tuberculosis, because sometimes these bacilli are present in the feces as a result of swallowing sputum that contains these organisms. Direct examination of feces for tubercle bacilli in bacteriological slides is difficult because of the materials composing the feces, and this method is applicable only if purulent or blood-stained mucous masses can be obtained to make the slides. Even at times when pus from tuberculous lesions is spread on the slides, the bacilli cannot be demonstrated. Animal inoculation, suspension and centrifugalization are of little assistance in the positive diagnosis of the organism of tuberculosis in feces.

Diagnosis of Tuberculosis by the Use of Tuberculin. The diagnosis of tuberculosis based on the demonstration of tubercle bacilli is often impossible. This is especially true when the lesion in question is located in such a part of the body that no material can be obtained, as is the case in internal lesions, joints, kidneys, etc. At times it is not possible to demonstrate the bacilli in material supposedly from the lesion. To overcome these difficulties new diagnostic agents have been introduced.

In 1890 Robert Koch published experiments in which he brought out the fact that the injection of killed, ground-up tubercle bacilli, in suspension in water, would, in doses not affecting well animals, kill tuberculous ones. Furthermore if the dose of injected material is reduced sufficiently and correctly adjusted this emulsion will prolong life in a tuberculous animal and at times produce recovery from the disease. Koch found that the injected bacilli are not absorbed and from this concluded that the healing substance is a soluble one, and one that comes from the body of the tubercle bacilli.

Based on these observations and conclusions Koch grew tubercle bacilli on a 5% glycerine bouillon for a period of from six to eight weeks, then boiled the bouillon culture, filtered off the bacilli, and evaporated the filtered bouillon down to one-tenth of its original volume, thus obtaining a 50% glycerine preparation. This has been called "Koch's old tuberculin." Tuberculous guinea pigs are affected much more by this tuberculin than are well pigs, one-half cubic centimeters causing death in tuberculous animals. When the amounts injected are correctly graduated it produces beneficial results in tuberculous animals.

The results of tuberculin treatment are not as satisfactory as had been expected and soon the use of tuberculin as a curative measure dropped to the background. This was not so however in its application as a diagnostic agent. The difference in effect produced by the injec-

tion of living and dead tubercle bacilli, and of tuberculin in well and tuberculous guinea pigs gave evidence of increased susceptibility to these substances in tuberculosis. On this has been based the tuberculin method of diagnosis of tuberculosis in man and cattle.

A non-tuberculous guinea pig will tolerate as much as two cubic centimeters of the concentrated old tuberculin. A tuberculous pig will die when 0.5 cc. are injected subcutaneously. Man, however, is much more susceptible to tuberculin. A healthy individual will tolerate 10 milligrams, and even at times 50 to 100 milligrams will produce no ill effects, but in a person with tuberculosis doses varying from one-tenth to ten milligrams cause local and general reactions of varying degree.

The local reactions in man can best be seen in lupus and tuberculosis of the joints. From four to six hours after the injection of tuberculin, the diseased tissues begin to swell, become red and hot. In the guinea pig, killed during the time of the reaction as was done with the animals I am showing you, one observes a marked congestion and hyperaemia about the lesions. In the peritoneum the reaction is nicely demonstrated when there is a tuberculous peritonitis. The reaction may be so severe as to cause necrosis, producing a tendency to demarcation and sloughing off of the tuberculous tissue. In the human this reaction of the tissues is evidenced in tuberculosis of the lungs by increased cough, rales, sputum and accelerated respiration. The action of tuberculin then is one on the tissues containing the tubercle bacilli rather than on the bacilli themselves.

The general reaction in man is usually evidenced by weakness, pains in the joints, chills with subsequent fever and sometimes vomiting. The reaction may be severe, making the individual quite ill. In the tuberculous guinea pig the tuberculin injection is followed by sluggishness and death. The rise in temperature is not much relied on in guinea pig reactions.

Both the local and general reactions depend on two factors—susceptibility and the amount of tuberculin given. Of these two factors the degree of hypersensitization is entirely unknown and is what is being tested for. The amount of tuberculin used in the test, however, can be regulated. The determination of the quantity of tuberculin injected is of great importance inasmuch as the reactions and disturbances at times are so severe that tuberculin has been given credit for causing new foci of tuberculosis. To avoid these severe reactions, small doses of tuberculin are used at first, then gradually increased, the principle of the best methods now known being to give the least amount that will give definite information as to the presence or absence of tuberculosis. In all tests for the purposes of diagnosis, the temperature of the patient is taken from 24 to 48 hours. If the temperature fluctuates, it can nearly always be brought to normal by putting the patient to bed. After the temperature is normal, or nearly so, a small dose of tuberculin, in some clinics 0.2 milligram of old tuberculin is injected subcutaneously and

the temperature is taken at regular two hour intervals for 48 hours. If there is no temperature reaction, then four days after the first injection 0.5 milligram is given and again the temperature recorded. If there still is no reaction, the amount injected is raised to 1.0, 3.0 and ultimately to 5.0 milligrams. If no reaction results from any of the injections, the patient is regarded as being free from tuberculosis.

When the test is applied in some such manner as is here indicated, no markedly uncomfortable results are encountered, and the test is of much diagnostic importance, being definite in over 95 per cent. of the cases of tuberculosis.

The old tuberculin of Koch has not been the only tuberculin that has been used to diagnose tuberculosis, various other so-called tuberculins having been prepared. Some of these have attracted a considerable amount of attention and have been used in the different clinics with varying results. In the last year, however, certain modifications of the administration of tuberculin have become very prominent.

Cutaneous Reaction of von Pirquet. The methods of von Pirquet were first published in the spring of 1907. He found, if he placed a drop of Koch's old tuberculin on the skin of a tuberculous individual, then scarified the skin and allowed the tuberculin to enter the tissues, that at this point a bright red, later dark red, papule would appear. This reaction he found at times to last as long as eight days. The reaction, he observed, came out best in cases of skin and gland tuberculosis, especially is this true in children, under one year of age. Pirquet concluded from his investigation that the test is positive for the diagnosis of tuberculosis.

Engel and Bauer from investigations on nursing children obtained at times a positive skin reaction when at autopsy no signs of tuberculosis could be found. The reaction they found was at times very severe and gave the best results in children between the ages of three and fourteen.

Wolff-Eisner and Teichman have made efforts to differentiate between the different stages of tuberculosis by the appearance and degree of the skin reaction.

The test has been tried on animals, especially on cattle, horses and guinea pigs by Vallee, and he believes the reaction to be of diagnostic value in tuberculosis. Dr. Luckey, the state veterinarian, has used the method on cattle and has obtained very satisfactory results.

Dr. Warfield, who has used this method of diagnosis in a considerable number of individuals, concludes that the reaction is harmless; and that it always appears when there is an active tuberculosis but that a positive reaction need not indicate an active process in as much as it occurs in healed tuberculosis.

At the present time, the test does not give definite information and more experimental work is necessary before the test can be used for definite diagnosis. Because of the safety of the method, it might well be used when it is to be followed later by the other methods of diagnosis; especially is this true when the reaction is positive.

Ocular Reaction of Calmette. In 1891 Koch, in giving further information concerning his tuberculin, stated that the active part is a substance that is insoluble in absolute alcohol and that it probably is a derivative of albumin, but not a tox-albumin inasmuch as it can be heated to the boiling point, and passes rapidly through the membrane of the dialyzer.

Calmette, in 1907, reported investigations on the reaction that occurs in the eyes of tuberculous individuals, when tuberculin is dropped into the conjunctival sac. Inasmuch as glycerine, of which the old tuberculin contains 50%, causes irritation of the conjunctiva, Calmette prepared a glycerine-free tuberculin by precipitating out with alcohol the active principle of tuberculin. The alcohol precipitate is soluble in water. Calmette observed that when several drops of a 1% aqueous solution were placed into the conjunctival sac of the eye of a tuberculous patient, there followed several hours after the instillation, a marked congestion of the palpebral conjunctiva, a swelling and redness of the caruncle, and a fibrinous discharge. This reaction reached its maximum about ten hours after instillation and disappeared in from 18 to 36 hours.

This means of diagnosis of tuberculosis at once attracted much attention and now reports have come from many clinics concerning its value. Some of the reports favor this method for the diagnosis of tuberculosis, while in some clinics unpleasant complications have been observed. The complications in some cases have persisted for some time and have been observed principally in eyes that were defective before the instillation of the tuberculin. At the present time there certainly are some objections to the clinical application of the test. The two chief objections are dependent on its value as a means of diagnosis and the complications that may arise in the eye as a result of the test.

Levy reports 85 per cent. of positive diagnosis in 41 tuberculous patients. The percentage of efficiency in diagnosis in other clinics is not much better than in the cases Levy reports.

Earlier I have pointed out that the reaction from the subcutaneous injection of tuberculin depends on the hypersusceptibility of the individual and the amount of tuberculin injected, and also that in making the diagnosis by means of tuberculin, the smallest amount of tuberculin that will give the diagnosis is used. This is done so as to avoid severe reactions. These same principles must apply in all tests based on hypersensitization. Most investigators have lost sight of these facts in the application of Calmette's tuberculin, the method usually employed being to instill from one to several drops of a 1% solution of Calmette's tuberculin. The number of drops put into the conjunctival sac is of no importance for the sac will hold only about one drop. It is thus evident that the difference in hypersensitization has not been taken into consideration. When the same amount of tuberculin is given to all hypersensitive individuals, the reactions obtained may be broadly divided into three groups: *a*, the group in which the hypersensitization is such that

the reaction is definite and not too marked; most cases will probably fall into this group; *b*, the group in which the hypersensitization is too low to give a reaction;—to this group belong the cases that account for the failures to get the reaction in tuberculous individuals; *c*, the group in which the hypersensitization is very marked; to this group belong the cases in which marked and persistent irritations and defects of the eye occur.

Wiens and Guenther found that they frequently had patients belonging to this last group. The conjunctivitis in these cases lasted for months. To avoid these marked reactions, they tried a one-half per cent. solution and got none of the irritations of the conjunctiva. If this is done, however, it must be evident that the second group of cases must be larger and that fewer cases of tuberculosis will be diagnosed by the ocular reaction.

To avoid too marked and persistent reactions and to get the reaction of hypersensitization in all cases of tuberculosis, in different clinics, first weak than strong solutions are used for instillation into the eye. Rosenau and Anderson, however, have found that re-instillation is open to certain objections. They found that twelve apparently healthy males on the first instillations gave no eye reaction when, however, these same twelve men fifty-one days later received the same amount of tuberculin; ten of them showed definitely positive reactions. These investigators point out that in these experiments there is proof of sensitization to Calmette's tuberculin which is not due to tuberculosis but due to the instillation of tuberculin. This sensitization may not be present early after the instillation, may be present only in the eye instilled, but it may possibly also be present in the other eye. This may preclude the instillation of varying strengths of Calmette's tuberculin for if we take into consideration the difference in hypersensitization and try to give varying concentrations of Calmette's tuberculin, we must also take into consideration the sensitization produced by the tuberculin itself. Even if the sensitization due to tuberculin instillation is limited to the tested eye, yet at times three instillations will be necessary and then one eye must be twice tried. It seems quite evident that the result of second instillation into an eye must be regarded with suspicion.

The work on the use of Calmette's tuberculin is still in the experimental stage, and at times persistent and severe complications arise. Because of this it would seem that at present, there is not sufficient justification in using it in the human eye; but instead the subject ought to be investigated in the eyes of animals.

This has been done by various investigators and generally unsatisfactory results have been obtained. Campbell and White have tried Calmette's tuberculin on tuberculous cattle and have found that the 1% solution produces no reaction in these animals. Similar results have been obtained by Dr. Luckey, who used some of my Calmette's tuberculin, made from bovine tuberculin. The crude tuberculin as it is sent out by

the Bureau of Animal Industry of the Department of Agriculture, has however, given very satisfactory results when used for the ocular test. Instillation of crude tuberculin even in the eye of a healthy individual, will produce inflammation due to the glycerine in this preparation; however, the conjunctiva of cattle apparently is not as easily irritated by glycerine, and the instillation of the crude tuberculin is followed by a reaction only when the animal is tuberculous.

Dr. Noyes and I have tested the hypersensitization in healthy and tuberculous guinea pigs and rabbits. Our results so far indicate that the laboratory animals may well be used to gather information concerning Calmette's ocular reaction as a means of diagnosis of tuberculosis. This would certainly seem advisable before it is used in the human eye.

Due to the uncertainty of the results of both the cutaneous and ocular tests for the diagnosis of tuberculosis, the lack of information on the value and safety of at least one of these methods of diagnosis, the subcutaneous injection of tuberculin will probably be more just to patients and to the doctor. Investigation, preferably in animals, ought, however, to be undertaken on both the cutaneous and ocular tests.

Treatment of Tuberculosis with Tuberculin. It was in the hope of finding a cure for tuberculosis that lead to the discovery of tuberculin. Since that time, Koch has made his TO, TR and tubercle bacillus emulsion. Denys has made a tuberculin similar to the old tuberculin, differing from it only in that it is sterilized by filtration rather than by heating. Numerous other tuberculins have been made and used in the treatment of tuberculosis. It was early discovered that the tuberculins do not directly cause the death of tubercle bacilli, but are curative only because of the action on the tissues containing tubercle bacilli. The tuberculins hasten the healing processes when given in the proper amounts and at the proper time.

The results obtained in the treatment of tuberculosis with tuberculin have varied and for a time this method of treatment was suspended almost entirely. In recent years, however, tuberculin has again become of more importance in treatment. It is now recognized that the maximum dose that will be tolerated is not to be given, but that there is an optimum dose which produces only a slight reaction without general symptoms. When such a dose is given, there is merely a congestion of hyperemia at the sight of the lesions. As a result of the congestion and hyperemia there is an increase in the number of leucocytes and increased amount of immune body and of normal serum in the part involved, all of which are of importance in combating infection.

The doses and kind of tuberculin that are given vary in the different clinics. The treatment that I have seen the best results with begins with an injection of 0.001 milligram of old tuberculin. The injections are increased slowly in amount and a considerable number of injections are necessary so that at times the treatment extends over months. If there is an increased or subnormal temperature, loss of appetite, sleep-

lessness, increased cough and sputum, local pain or inflammation, the amounts injected are decreased.

Tuberculin treatment is applicable only in beginning and in uncomplicated tuberculosis. Marked fever, heart lesions, hemoptysis or marked emaciation are usually regarded as contra-indicating tuberculin treatment. The cases of tuberculosis of the bones, glands and skin respond especially well to the treatment. In all cases, however, the treatment with tuberculin ought to be well regulated and supplemented by all of the treatment generally given to patients having tuberculosis.

Summary. The demonstration of the presence of tubercle bacilli is the only definite, positive diagnosis of tuberculosis. It often is difficult to demonstrate or find tubercle bacilli in the material available for examination. Realizing this difficulty the clinician must give to the bacteriologist every assistance possible, and the bacteriologist must do more than examine the ordinary bacteriological slide. Frequently the demonstration of the tubercle bacillus requires modification of the material, centrifugalization, sedimentation, and animal inoculation.

When the tubercle bacillus cannot be demonstrated in the material available, tuberculosis can in many cases be diagnosed by means of tuberculin. The reaction obtained with tuberculin depends on hypersusceptibility due to effects produced by the tubercle bacillus. This hypersusceptibility varies in different tuberculous individuals, and the reaction obtained by the use of tuberculin varies with the degree of hypersusceptibility and the amount of tuberculin used.

To avoid severe reactions, the smallest amount of tuberculin that will give a definite diagnostic reaction ought to be used. Because of this usually very small amounts are first used and then increased up to certain amounts, until the case is diagnosed as being tuberculosis or not.

Tuberculin is administered in different ways for diagnostic purposes. The subcutaneous injection method is the one concerning which most is known. Newer methods, especially those giving cutaneous and ocular reactions are not at present of as much diagnostic value, and experimental work is necessary before these methods can be applied with as much safety to the patient and be of as much diagnostic value as are the subcutaneous injection methods. Experimental work can be done on the laboratory animals and at present it would seem as if this is advisable.

The different tuberculins, when given in proper amounts and at the proper intervals are of curative value in certain cases and forms of tuberculosis.

THE CARE OF THE CONSUMPTIVE.*

BY EDWARD W. SCHAUFFLER, M. D., KANSAS CITY, MO.

I would never have ventured, on my own initiative, to present to you on this occasion a paper with the above title. But when requested—I may almost say instructed—to do so by the commander-in-chief of the anti-tuberculosis campaign in Missouri, our friend, Dr. William Porter, I dared not refuse. The best I can do for you therefore is to handle the subject briefly.

By the care of the consumptive we mean the measures that should be taken for his comfort, for his cure, and for preventing him from being a source of infection to those about him. This care must be exercised partly by the enforcement of certain regulations by public authorities, municipal, State, or national, and partly by the voluntary action of the patient and of his friends.

The recent growth of public opinion in favor of the control of tuberculosis by legislation and the enforcement of laws bearing on this point is very marked. A few years ago even the doctors were somewhat doubtful as to the wisdom of attempting the registration of tubercular cases, fearing that the community would resent this as an impertinence and as a means of making still more intolerable the lot of those who were already sufficiently burdened with their malady. This fear has proved to be unfounded, and in many cities and some States laws for the registration of the tubercular, with provision for their care, for the protection of those who must be in contact with them, and for the disinfection of rooms or houses in which such patients have died, are being carried into effect without in any way interfering with the comfort or happiness of the sick. The latest and one of the most complete legislative acts in this line has just been passed by the legislature of the State of New York, the provisions of which are thus summarized in *Charities and the Commons,* for May 9, 1908:

> Tuberculosis is declared to be an infectious and communicable disease, dangerous to the public health. It is made the duty of every physician to report to the local health authorities all persons known by him to have tuberculosis. A similar duty is imposed upon the chief officers of hospitals, dispensaries and similar institutions. Local health authorities are required to provide for the free examination of sputum, upon the request of any physician. The register of persons having tuberculosis is protected from publicity. Premises vacated by the death or removal therefrom of a person having tuber-

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culosis must be reported to the local health authorities and must not be occupied until properly disinfected. Health officers must visit such apartments or premises, and determine the manner in which they shall be disinfected, cleansed or renovated. Disinfection must be done by the health authorities at public expense. Cleansing and renovation shall be done by the owner, at his expense, in accordance with the instructions of the health authorities. In case such orders are not complied with, the health officer may post a suitable placard, preventing the re-occupation of the premises. The health authorities may, upon the complaint of any person, after an investigation thereof, serve notice upon any person having tuberculosis who disposes of his sputum in such a manner as to cause offense or danger to others, requiring him to dispose of his sputum in such a manner as to remove all reasonable cause of offense or danger. The violation of such an order is a misdemeanor. Health officers must send to physicians reporting cases of tuberculosis a printed statement and report, approved by the state commissioner of health, enumerating such procedures and precautions as are necessary to be taken on the premises of a tuberculosis patient for the protection of other persons occupying the same premises. Physicians may either carry into effect such procedures and precautions, for which they shall receive the fee of $1, or, if unwilling or unable to take such steps, shall so certify to the health authorities and the duty shall thereupon devolve upon the health authorities, who for the performance thereof shall receive a similar sum. Health authorities shall also send to physicians a printed requisition, enumerating the supplies and materials kept on hand by them for the prevention of the spread of tuberculosis, and shall so far as possible fill the requisitions of physicians for such materials, including circulars of information concerning the treatment of the disease and the precautions to be taken to prevent its spread to others. A penalty of not to exceed $100 is imposed for false reports. For other violations of the act, a penalty of not less than five nor more than fifty dollars is imposed. Upon the recovery of a patient, this fact must be reported by the attending physician, and the name shall thereupon be removed from the register.

Many of these requirements have already been carried into effect in the city of New York under municipal laws without working any hardship on the people and with no opposition on their part. I am sure we shall all agree that this is the sort of legislation we need in the State of Missouri and that it is our bounden duty as intelligent physicians to work for the securing of such legislation by every means in our power.

Another duty devolving upon States and municipalities is for the establishment and maintenance by the cities of free dispensaries for the treatment of tubercular patients, and, by both cities and the State, of hospitals and sanatoria for the reception of such cases, both those that are incipient and the more advanced. It will never be possible to reach all cases of pulmonary tuberculosis in this way, but the effort should be made to reach as many as possible, not only for their own good, but for the protection of the community. Many of our Eastern States are multiplying this sort of institution with commendable activity. And yet, even in those parts of the country where the most progress has

been made, the supply is pitiably small as compared to the demand. In Polk's Directory of Physicians of the United States for 1906 there is a list of 420 hospitals and sanitariums in the State of New York. Among these are *ten* for tuberculosis, one State Hospital for Incipient Tuberculosis, two municipal hospitals belonging to the City of New York, and seven private hospitals or sanitaria, three of which are free, the others being for pay patients only.

In the State of Missouri there are, so far as I know, only two institutions of this kind—the Mount St. Rose Throat and Chest Hospital, St. Louis, and our State Sanatorium for Incipient Tuberculosis at Mt. Vernon, while Polk's Directory gives a list of 138 Hospitals and Sanitaria in the State. Is there not enough left for us to do, enough especially for you young men who have the immediate future of our great State in your hands?

In every city or larger town there ought to be dispensaries established for the free examination and treatment of all suspected tubercular cases that may seek their aid. Here careful diagnosis should be made and intelligent treatment be given; above all instruction should be given, simple, earnest and oft repeated, to the consumptive and to his friends, whereby they shall be taught the simple but inexorable rules that must be observed for the cure of the sick and the preservation of the well. Printed instructions, brief and plain, on the above topics should be furnished at cost by our State Society for the Prevention of Tuberculosis, for free but judicious distribution at all such dispensaries and by all local societies. In order that our State society may be able to do this, however, we must, first of all, support that society financially. Every city of any considerable size should maintain its own tuberculosis hospital, where many may be cured and some may be kindly cared for till life ends. This will still leave enough for the State at large to do for its smaller towns and its rural communities in the way of tuberculosis hospitals and sanatoria.

The good work that is being done by your State sanatorium at Mt. Vernon is just beginning to be known. There has not been time enough since its opening for the accomplishment of much in the way of cures. But people here and there in the State are beginning to learn how well off their friends are at Mt. Vernon, how contented they are, and how much they are improving, and there will soon arise such a demand, from all parts of the State, for more provision of this sort as will compel the men at Jefferson City to heed the call. All honor to the few faithful, self-sacrificing enthusiasts among our own number by whose persistent efforts this noble work in our commonwealth was inaugurated!

Coming now to the care of the individual consumptive we find that the same simple rules hold good whether such patient is to be treated in a sanatorium or at home. There are five cardinal principles to be observed. We count them upon the fingers of one hand.

1st. The proper disinfection of sputa.

2nd. Out-door air, day and night.

3rd. Forced feeding.

4th. Rest during the existence of fever, and the careful regulation of exercise at all times.

5th. Supervision by a physician.

We will waste no time on the disposition of sputa, information on this subject being now so widely disseminated. Only, besides instructions as to the care of what is spit out, caution your patient likewise against swallowing his sputum. At this point, also, let me speak a word of warning against permitting the community to get into a needless panic with regard to the danger from the proximity of the consumptive. With proper precautions on the part of the invalid, which need imply no hardship, as well as on the part of those about him, this danger may be reduced to such a minimum as not to be worth taking into account. And yet we know of health resorts that have chronic hysterics on the subject, and I have known people who objected to going into camp in the wilds of Colorado or New Mexico for fear of meeting consumptives there! Both are equally absurd.

The second requirement, really the first for the good of the patient, is *out-door air, day and night.* Do you say this is impracticable? You are mistaken. If you are as thoroughly convinced as you ought to be of the absolute necessity of this for the accomplishment of a cure, you will be able to convince your patient of the same, and together, you and he or she will be able to bring it about. Sleeping out of doors is even more important than being out during the day, and it is more easily accomplished. To sleep in a room with the windows all open, unless you have windows on four sides, is not as effective as sleeping on a piazza or in a tent, with the ends and sides partly open. For remember that a closed tent may give you as bad air as a closed room. I imagine that it may be more difficult to persuade country people to sleep out of doors than town folks, for I have never occupied closer, stuffier, more objectionable bed rooms anywhere than I sometimes have in a farm house, with windows that could not be raised by any power I could exert. In Kansas City I have had quite a number of people—delicate women as well as men—sleeping out of doors summer and winter during the past three years, to their great benefit as well as in perfect comfort. After they have tried it for awhile nothing could persuade them to sleep in the house.

The term "forced feeding" has rather an ungracious sound, and it will occur at once to the physician that many consumptives are also suffering from indigestion and cannot tolerate much food. This must be recognized and heeded. It is only meant that patients shall be fed with as much highly nutritive and easily assimilable food, properly prepared, as they can tolerate, and that they shall have food six times a

day instead of three. Cereals, breadstuffs, beef, mutton and fowls, the lighter vegetables and especially an abundance of milk and raw eggs constitute our main dependence for the table. It is surprising how soon the patient who lives out of doors loses his indigestion. We cannot afford to wait till they get hungry but must insist on their taking their prescribed ration at the appointed time, so long as it does not disagree with them. Neither need a moderately elevated temperature, as a rule, forbid pretty liberal feeding.

One of the sad mistakes that was constantly made when the consumptive was merely told to go away to some more favorable climate and to live out of doors was that these people, often with a habitual high temperature, were permitted to take a very undue amount of exercise. They thought it was for their good, poor things, and used up the little strength they had in bicycling, climbing mountains, chopping wood and carrying water in camp, and otherwise putting a harmful strain on their enfeebled lungs and failing hearts. We know better now, and forbid all exertion to the febrile subjects, making them lie still in the open air, rest and be fed, assured that if all goes as we hope it may, the time for exercise, recreation and sports will presently come.

Finally, every consumptive should be under medical supervision, not merely to be seen by the physician once in two or three weeks, but to be constantly watched, advised and guided with regard to the entire routine of life. We have no medicinal cure for consumption, but there are many things about the consumptive that require treatment, sometimes medicinal. The physician who has divorced himself from the old-time practice of cough mixtures and cod-liver oil, of chest protectors and the avoidance of drafts, of croton oil externally and creosote internally as being about all you can do, and who will heartily adopt the principles so briefly outlined above, inspiring his patient with confidence and hope, taking him into partnership in this new and promising campaign against the deadly foe, will win many a battle, the issue of which at first looked hopeless, and gladden his own heart as well as many a home in this broad land.

You will observe that I have said nothing about a change of climate in the treatment of consumption. I still believe all that I ever believed with regard to the advantages of Colorado or New Mexico to the consumptive. But the great majority of our patients cannot avail themselves of these advantages. To our great joy we now know and may tell our people that by the observance of the rules here laid down we can give better promise for the cure of consumption in Missouri to-day than used to be given in Colorado.

PUBLIC EDUCATION AGAINST TUBERCULAR INFECTION.*

BY T. F. LOCKWOOD, M. D., BUTLER, MO.

When called on to take a part in a symposium relative to tuberculosis, I felt inadequate to the task as I feared I could not bring to my command, words and phrases necessary to awaken the minds of the profession and laity as well, to a sense of responsibility in this the world's greatest human devastation. Page after page, volume after volume have been written and published in many languages upon this vital question, and still we have remained helpless in a measure, in eradicating this life-destroying element from our midst. True we have learned much about its nature and its dangerous habitat; we have followed its trail from individual to individual on its death-dealing tour; we have seen one after another in the same household fall victims to the disease, proving beyond a doubt, that it is infectious by direct contact, we see in our every day life its insidious attack upon those unaware of its virulency. All this and more have we seen scientifically and convincingly demonstrated to the profession and in some degree, to the public, and yet the invading army has steadily moved forward until we are face to face with the enemy, fighting against many odds in this deadly conflict. Thousands upon thousands yield up their lives after a hard-fought battle with this demon of death called consumption, therefore, it behooves us as promoters of public health and as members of the Medical Association of the great State of Missouri, to concentrate our energies with the combined forces furnished by philanthropists throughout the State in arresting this awful onslaught of human life. With all that has been said and done in the interest of mankind along this line, there yet remains for something stronger to stimulate us to a quicker conception of the sad situation now confronting us. Is it that we must witness the untimely death of a loved one of our own family, or that of a dear friend, or greater still: must we feel the germ of destruction gnawing at our own vitals before we enlist in the effort to prolong lives of unfortunate beings who are destined to die prematurely unless we go to their early rescue? God in his infinite mercy endowed man with a heart of sympathy for his fellowman when in danger or distress from any cause, and I trust we may be inspired with sufficient power to show wherein we may add strength to the mighty forces necessary to combat this stubborn reality. For years and even centuries, tuberculosis has held sway in our midst, slaying its thousands annually with but little resistance offered whatever. People who were known to have consumption were doomed to die sooner or later as there was no known

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cure for it and those thus afflicted were permitted to mingle continually with family and friends in all the social relations of life as long as life lasted, no precaution taken to prevent infection because of the lamentable fact that the profession at that time did not possess the knowledge it now enjoys relative to its infectious qualities. The belief heretofore prevalent pertaining to many in the same family dying from tuberculosis, is no longer thought to be due to hereditary tendencies but acquired wholly from tubercular environments. Realizing then that it is often contracted and seldom if ever inherited, we should direct our energies toward preventive measures if we hope to obtain marked beneficial results, and to do this successfully we must necessarily educate the public beyond the ordinary trend of life: we must bring about reformation in living in our everyday associations with the public in general: we must endeavor to enforce upon the laity, certain rules and regulations of society heretofore unpracticed if we expect to accomplish the desired end now in view: no sanitary rules that are entirely optional with an unenlightened public will be strictly obeyed, and neither can we hope to enforce rules or laws to the letter even though a penalty be inflicted for disobedience as it is impossible to maintain constant vigilance over those who are a walking menace to public health by carelessly and ignorantly expectorating upon the streets and thoroughfares of our towns and cities to be trampled and triturated beneath the feet, subsequently permeating the air we breathe.

Educate the public to fear and to shun consumption as it would smallpox, yellow fever and other diseases of like character. When apprised of above diseases in our midst, we at once place them under quarantine but we allow a consumptive who is many times more dangerous to the public, roam about at large, indulging in the same social privileges as those in health. When a farmer has a sick hog he immediately isolates it from the healthy ones, but not so with unfortunate consumptives who, under our present social customs are permitted to eat, drink and sleep with friends and relatives, there being no restriction placed upon them whatever, no matter what stage the disease may have attained. These same pitiable individuals are permitted to ride in street cars and railroad coaches where hundreds of people are placed in contact with them for hours, during which time no doubt, they have expectorated many times upon the floor of the car there to dry and later to be liberated in the atmosphere breathed by the occupants. Frequent visits are made by these subjects to the water tank while traveling for a consumptive is always thirsty, made so by the fever accompanying this ailment, and he uses with impunity, the same drinking cup used by the traveling public. This is wrong and should not be permitted, and the medical profession should see that laws are enacted prohibiting this public crime, for it is no less than criminal to allow these sick subjects to deposit the germ of tuberculosis in public places, especially upon drinking cups to become a source of great danger to an unsuspecting

public. There should be provisions made by the State to furnish each subject with drinking cups. Every consumptive should be abundantly supplied with small paper napkins carried on their person to expectorate in and then securely folded and placed in a pocket prepared with a flap and a detachable lining so when filled or soiled the lining with its contents, can be removed and burned, immediately replacing with a fresh one. This would act as a perpetual warning against spitting on the streets and in public places, a detestable practice we have as yet, been unable to restrain. This little sanitary measure would cost the State but a small sum and I am sure it would save the lives of many who are daily exposed by the careless spitting in public by these thoughtless subjects. Let us strive to enforce such regulations and we have done more for mankind than is possible to realize at this instant.

We hail the day with gladness when public schools will have a physician on the faculty to teach the coming generation hygiene in a much broader sense than at present taught. I believe a physician should be appointed by the Governor for each county in the State outside of the larger towns and cities, receiving such remuneration for services as deemed expedient, whose duty it shall be to meet at least once a year with the teachers and educators of the county in institute work, giving such lectures as will best enable the teachers to subsequently impart the knowledge to their pupils relative, not only to tubercular infection, but to all contagious diseases so prevalent with the young. In towns and cities, where ward schools exist, there should be a physician on the faculty with the same duty to discharge as his rural brother except his lectures should be personal and didactic. We must inculcate in the minds of the young the principles by which they are made to see their own danger from association with infected individuals and there is no better plan for doing this than demonstrating medical facts to them along with their training for general knowledge preparatory for other requirements of life. We must teach the young who are more susceptible to learning and more comprehensive of the things taught than the parents who are so hopelessly fixed in their ways as to ignore the light that is shed all about them. Our public schools of to-day are too much of a commercial and financial institution where we teach our children the art of making money much to the detriment of their physical well-being, instead of training them in the art of maintaining longevity. The big, husky football player may learn well how to tackle his opponent in a game with all the improved tactics of an expert athlete, but he may after all this, fall a defeated physical hero at the bidding of the little tubercular bacilli. True a person of strong physique may resist more successfully tubercular infection but many of the strongest fall victims to its aggression.

Much of the public do not believe consumption contagious and hence persist in mingling with its victims at all hazard. This act of indifference alone should be sufficient reason why we should begin at our public

schools to enlighten the doubting world on this vital subject. Reverse the order of things somewhat by teaching the children to teach the parents if need be, that consumption is due to a germ, a micro-organism that lives upon living tissue only, and is capable of transmission from one person to another by domestic relationship. A strange phenomenon indeed, that tubercular bacilli will not work on dead structure: when the subject dies the germ dies also. They must have animal warmth to maintain active propagation. This being true, why not drown them out by flooding their den with pure, cold air? I believe each state in the Union should have a distributing depot for all supplies necessary for the comfort of tubercular patients. This station should be in charge of a competent bacteriologist who is also a physician, whose duty shall be to make microscopic examinations of sputum sent him by physicians throughout the State, and by the patients themselves who are anxious to know the truth concerning their condition. It should also be his duty to distribute supplies to those whom upon examination he finds entitled to such, consisting of paper napkins, pocket depositories for same, antiseptics, disinfectants and literature bearing on tuberculosis, its pathological history simplified, its prevention and its treatment by the latest and best authors. All this to be furnished the patient free. He should become the health guardian of every tubercular subject in the State, keeping a complete record, as far as possible, of every case of consumption in his jurisdiction. He should become a bureau of information relative to tuberculosis for the medical profession in the State and to the inquiring public at large. It shall be the privilege of the bacteriologist to choose such assistance as found necessary to aid him in the work. All this could be done without much expense to the State and I assure you we would be well paid in good results.

We long to see the time in the near future, when tubercular sanitariums will adorn the State in many places. Farms might be beneficial adjuncts to tubercular sanitariums where those in the incipient stage might be allowed to do such work as consistent with their condition, thereby rendering the institution as far as possible, self sustaining. Colonizing tubercular subjects for such time as deemed necessary by the State Bacteriologist would be one way of curtailing the ravages of consumption. To accomplish anything worthy of note in the way of stamping out this pale plague, we must teach the victims to understand they must make many self sacrifices in order to help reach results so much desired at the present time. We must show that our stringency on them is not wholly for the protection of others and that we are not jeopardizing their lives in the least but instead, they would receive personal benefit from such isolation by affording them the best opportunity for recovery. Our aim then is of two-fold purpose. 1st. By isolation under quarantine regulation and under the supervision of a state physician, the patients' interest is maintained and promoted. 2nd. By such isolation we remove a source of public infection, saving the lives

of many who might otherwise fall easy prey to the disease. It is an unpleasant task to make the following statement against these poor, God-pitied unfortunates, but it is true with many nevertheless, that they invariably lose respect for the safety of others, even of their own household. I have seen husband and father cough and expectorate upon the floor of his own home, exposing his wife and children to the vile contagion and his only excuse for this filthy, inhuman act, was that he did not have consumption for some old fossil, called doctor, had felt of his pulse, looked at his tongue and told him so. Gentlemen, you have all seen these cases that Drs. Brown, Smith and Jones said were not consumption. There are many monumental witnesses standing in every cemetery in the land giving visible testimony to such mistakes. Not long ago (if you will pardon me for making the statement) I was treating a young lady for tuberculosis of the lungs. She had a cough with the characteristic expectoration, fever of a continued type, extreme emaciation, anemia, cessation of the menses, night sweats, falling out of the hair and most of all, hemorrhages from the lungs. It was a typical case of acute consumption and needed nothing more than a history of the case to confirm a diagnosis. The patient improved slightly under restorative treatment for about two months, having a return of menses, then she gradually grew worse. Another physician was called in who shunned the idea of consumption. She continued to grow weaker with all the symptoms more marked. A second physician, at the request of the first, was called in consultation. He mutually agreed with the first, that she was suffering from hypertrophy of the heart. Please note the wide contrast between the two ailments. This little patient is now peacefully sleeping in the bosom of kind mother earth. We should be extremely careful with our remarks when dealing with any malignant disease. We had better by far err on the safe side and treat all suspicious cases with the same degree of precaution as we would a well marked case of consumption. We can do our patients no harm by so doing and might save the lives of others who are necessarily exposed by unavoidable circumstances. Policy should not prompt any physician to call consumption by some other name just because the patient and friends are pleased to find the doctor who will avoid the graveyard name consumption. Hypertrophy of the heart sounded sweet in the ears of that poor, dying girl; it held out a false hope to her even to the last moment of her dear life and accomplished nothing. It caused the family to cease their carefulness in destroying the germ-laden spittal and had the patient lived long under this state of affairs I am sure other members of the family would have contracted it. I appeal with sincerity, to the profession to be more conscientious and fair with the afflicted who have entrusted their lives to our keeping, for our reward in store is none too large to boast of. I believe in telling the patients of their true ailment as soon as we are positive beyond question they have tuberculosis. It is well to inform the family or friends of the proba-

bilities in the case even in advance of this if we are the least suspicious, that they may ever be on the alert to protect themselves. Our stronghold is nothing short of preventing tuberculosis rather than in the cure, therefore, we must become better teachers of physiological living. Living should be as much a science as anything else pertaining to our physical and mental attainments. Our present progressive method of living resembles much the gopher-in-the-ground style. Doors and windows, even keyholes in winter, are tightly closed. Pure air is at high premium for those who demand it in our modern homes of to-day. The God-favored families living in log cabins on the sunny-side of the Ozarks, are to be envied for the abundance of health-giving ozone that so freely flows in at the many wide crevices found in these crude huts. The conkshell pink tinging the faces of these happy, home-grown children is truly indicative of well aired blood, giving bloom, beauty and vigor to each individual who thus dwells in the sturdy arms of nature instead of mansions made by man. The beautiful homes of the wealthy, the very pride of our proud nation, are magnificent to behold but more people die prematurely in such abodes than in the cabins in the hills. Our homes, no matter how humble, should have sleeping rooms so arranged that nothing but pure, sweet, unused air would enter them. Build them on the south side of the dwelling where sunshine will bathe the interior during the day and the lazy moon at night, may smile peacefully down on you while the gentle zephyrs sing lullabies while you slumber. Sleep wrapped in nature's embrace if you wish to escape tuberculosis, pneumonia and all other diseases incident to said-to-be "taking cold." Soldiers during the civil war who slept out with nothing but blankets and the canopy of heaven for cover, were practically free from tuberculosis and other diseases of the respiratory organs. For four long years they were subjected to such hardships and many of them can testify to-day that few if any, fell victims to consumption. My dear fellow practitioners, why have we failed in these forty years or more, to learn a lesson from this practical demonstration? Not until the great avalanche of human destruction had swept us almost off of our feet did we open our eyes and take notice of the things responsible for our present predicament. If soldiers could thus live and remain healthy, what health we could maintain, by living a similar life systematically.

Let us forever impress upon the intelligence of the public that higher forms of life, both animal and vegetable, depend upon light and air for existence, and it is the lower forms of creation that thrive best in shady places where air and sunshine are wanting. Snakes, scorpions, vermin and all creeping creatures seek such habitation and the lower down the scale of life you travel the more augmented becomes this law of creation and at the very bottom are to be found all the microorganisms the chief promoters of human affliction.

In conclusion let me impress upon your minds that all the essays, all the lectures read and delivered before this or any other medical body, will

aid but little in this grand crusade against tuberculosis if we do not send out missionaries as it were, among the multitude, teaching the word of wisdom to the unwise that they may see the error of their way of living and flee from the danger that surrounds them in everyday life. We must enlist the public into service by joining in one universal effort to suppress this mighty calamity that so defyingly threatens a complete devastation of our nation.

By way of reiteration, let me say, that public education relative to tuberculosis in all its pathological phases, is the most feasible means by which to arrest the ravages of this human curse that so freely invites our attention at this time. So let us proclaim to the world now, henceforth and all the time, the promulgated facts as fast as found in medical science, that the public may have due notice of such findings and be governed accordingly.

UNIVERSITIES AND COLLEGES AS FACTORS IN THE ANTI-TUBERCULOSIS EDUCATIONAL CAMPAIGN.*

BY W. McN. MILLER, M. D., COLUMBIA, MO.

You will see from the title that the subject for consideration is a composite one. On analysis it yields: the university as a factor, and the college as a factor, in the educational campaign.

The aim or object, the methods and the organization of these two classes of institutions, are different. The essential function of the college is to educate or to train younger, less mature individuals, to teach them how to work and at the same time to impart to them such knowledge as may be of service to them in after life, irrespective of the special vocations they may take up as a life work. The function of the university is to train maturer, fundamentally educated individuals along special lines, to fit them to perform efficiently the duties of their respectively chosen vocations. The college imparts general information derived from whatever source; the university, special information. The university differs most vitally from the college in that it acquires information first hand, it directs investigation or research whereby knowledge is primarily attained and trains maturer individuals to become investigators.

The province of the college lies within geographical regions well established, that of the university extends to the frontier, into the regions of discovery.

The method of the college is preëminently instructive and general, that of the university, instructive and special, and investigative.

The organization of these two classes of institutions is co-ordinate with their respective aims and methods. That of the college is simple and limited, that of the university diverse and extensive. The college is organized with a limited faculty of instructors having well defined duties; the university, with an association of faculties, each made up of instructors and investigators having diverse interests and duties which are not definitely prescribed, but to a considerable degree determined by the special interest of the individual member. However, it must be noted, that most American universities, as organized, contain a department which is essentially a college, as set forth above, known usually as the academic department, or school of liberal arts, or school of arts and science.

Furthermore, there has developed in America a type of university that includes in its organization certain departments that correspond to the so-called polytechnical schools, in which instruction is given that

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pertains to special trades and industries. The most conspicuous class of universities of this type is that of the State universities. Established by State and nation for their respective benefits and serving the interests of the citizens who virtually constitute State and nation, they will continue to receive their support and will surely develop into the dominant and persistent type of university. Their field of operations will become as varied as are the interests of man, coördinate and coincident with the life of the nation. As an illustrative example of such an institution, we may cite the university of our own State, as now organized with its coördinate schools of arts and science, law, medicine, teaching, engineering, agriculture, domestic science and journalism.

For the reason that in a university of this type, the college is included, we will limit our considerations to the subject: The university as a factor in the educational campaign for the prevention and cure of tuberculosis.

What the college is or should be, as a factor in this campaign, may be inferred easily from what has been stated above in defining its relations to the university.

This campaign of education has taken on a new life and organization only within the last few years and the participation of the universities has been, for the most part, merely incidental. However, it may be noted that the movement has had its beginning in the university and in closely allied institutions, or with men who have been affiliated with university work.

The field of operation of the campaign is common alike to the professions of physician and surgeon, agriculturist and veterinarian, hygienist and sanitarian, sanitary and municipal engineers, sociologist and political economist, architect, teacher and household economist, all of whom are represented by instructors and investigators in the American university. What these representatives may have done contributory to the campaign till now has been incidental, nevertheless it is something done by the university as a factor and constitutes no small portion of what has been and now is being done in the propaganda.

In the domain of tuberculosis, research is carried on with the intent to ascertain by systematic effort, a knowledge of the nature of the disease process as directly or indirectly dependent upon the activity or presence of the parasitic bacillus within the body of the infected organism, and to determine by what process or means the disease may be prevented or counteracted and the organism maintained in a state of health or restored thereto. This implies work in the fields of pathology, bacteriology, chemistry, immunity, therapy and surgery, in the province of human and veterinary medicine.

Research is also carried on to determine the conditions under which the disease is transmitted from one individual to another and from man to the domestic animals and from them to man, and to determine by what means this transmission may be prevented. This implies work in the

fields of bacteriology, food supply, ventilation, house, car and ship construction, school, prison and factory inspection, etc., etc., in the provinces of the hygienist and sanitarian, physician and veterinarian, sanitary and municipal engineer, agriculturist and dairyman, sociologist and political economist, architects, teachers and household economists,—all represented in the faculties of the university.

Research, however, implies and includes correlative publication in reports and in technical journals, whereby the results attained are made available to co-operative workers and contributing to the general fund of knowledge upon the subject, from which may be drawn such information as may be of use in the campaign. A great advantage of conducting research in a university with its organized co-operative departmental system is that the work may be economically co-ordinated to a definite end.

Instruction in the university with respect to tuberculosis may be classified into that which is professional or technical and that which is popular, separated, however, by no sharp line of demarkation. Professional or technical instruction is given to students in human and veterinary medicine and to nurses; to students in municipal, sanitary, railroad and steamship engineering; to students in house, tenement, school, factory, prison and hospital architecture; to students of military science in camp construction and management; to students of sociology and political economy in the many socio-political economic aspects of the problem, such as the financial burden entailed by tuberculosis upon the community, local, state and national police control and relief, parks and play grounds, hospitals, sanitaria, farm colonies and convalescents' homes, food and milk supply, health boards, quarantine and sanitary law; and to students of home economics and teaching in many aspects of the problem, hygienic and sanitary.

While the instruction in tuberculosis is given incidentally along with that of other diseases and in relation to other hygienic and sanitary subjects, it has been and will continue to be, the most important factor in the broad aspects of the educational propaganda. Each of these students, technically informed, will go out into the world and wherever he make his home, he will become a local source of reliable information.

As the physician feels it to be his duty within his province to warn and advise his patients and acquaintances against the danger of the disease, so will each of these, within his circle of influence, do likewise, prompted by the same sense of duty.

Does not this exposition of the function of the university show it to be the main source of information and the chief center of inspiration for the great educational propaganda against tuberculosis?

All this in the past has been done incidentally, but the university should do more. It can participate actively in the specific popular campaign. Being organized, it could do this at little cost and without taking on an excessive burden. It should give elementary courses in personal hygiene and domestic and social sanitation to each student. It should

go beyond its walls and by lecture and demonstration, by bulletin and circular, teach the citizens of its local community and of the State at large. It should co-operate with local and State associations for the prevention of tuberculosis; it should use its influence for sanitary conditions in the college town, at the homes of students, in the State hospitals, reformatories, prisons and county almshouses. This it could do through the established channel of university extension. It should always and in all ways, use its influence to promote the health, conserve the resources and improve the social conditions of the citizen of the State which it serves.

PSEUDOMYXOMA PERITONEI; WITH REPORT OF A CASE.*

BY O. BEVERLY CAMPBELL, M. D., ST. JOSEPH, MO.

This disease was given its name by Werth in 1884. In 1874 Beinlich reported two cases, classifying the process as myxomatous degeneration of the peritoneum.

The name given by Werth, pseudomyxoma peritonei, is now accepted, with however, a somewhat different understanding of its pathology and origin. In reviewing the literature I have found 58 reported cases, making with my own 59 in all.

A study of these cases shows that in every case but one, there existed a multilocular cyst-adenoma of an ovary, which had ruptured, its contents escaping into the peritoneal cavity. That in 9 of the cases reported there were secondary cysts in the omentum, appendix vermiformis, intestine, liver and spleen; that in 50 of the cases no secondary cysts were found. In all of the cases large quantities of pseudomucin was found free in the peritoneal cavity. That a low grade of peritonitis existed in all the cases, the peritoneum being roughened, and grayish in color.

The mortality in the cases reported is about 40 per cent. That is, 58 of the cases were operated upon with 24 deaths and 34 recoveries. One case which died was not operated upon, the nature of the disease being revealed at post-mortem.

The mortality has been variously stated by different observers, at from 40 to 50 per cent.

There is but little literature pertaining to this disease, and in several of the cases reported the microscopic findings were not given. Scheuman, in giving a report of a case and a review of the literature, concludes: That inasmuch as it corresponds histologically accurately with the process of cancer formation, pseudomyxoma peritonei must be regarded as a form of carcinoma.

In reviewing the case reports it is evident that we have two distinct classes of cases, viz.:

(1) Multilocular pseudomucinous cyst-adenoma glandular, in which one or more of the loculi have burst, discharging their contents into the peritoneal cavity, producing an irritative peritonitis, and a large accumulation of pseudomucin in the peritoneal cavity.

(2) In the second class of cases we have added to the above condition, secondary cysts in omentum, intestines, spleen, liver, and pancreas.

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The first class of cases should only be declared malignant, when the microscopic findings demonstrate this to be its nature, or clinically by the later development of secondary cysts.

According to the classification of Pfannensteil, the large majority of cases of cystic tumors of the ovary are pseudomucinous cysts, and are benign.

The color of the pseudomucin will depend to some extent upon the presence of cholesterine and blood, and the specific gravity will depend upon the amount of serum present.

Miss K., 37 years of age, residence, Marysville, Kansas, was admitted to Saint Joseph's Hospital, January 29, 1908. She had always been healthy until about one year ago, when she noticed some pain and discomfort in the lower abdomen. Mother and father living and in good health. Negative history as to tuberculosis and carcinoma. Patient had noticed that her abdomen had been rapidly enlarging for about ten weeks. The abdomen was greatly distended with an accompanying edema of lower extremities.

A bimanual examination revealed a probable ovarian adeno-cystoma. There was seemingly a semi-solid material in the peritoneal cavity. On percussion, the lower two-thirds of the abdomen were dull. Operation, January 30th, assisted by Dr. Bansbach. A four-inch incision was made in the mesial line, extending from near the symphysis pubis toward the umbilicus. It was noted that the peritoneum was thickened. A small opening was made in the peritoneum, when a quantity of pseudomucin at once escaped from the abdominal cavity. The opening in the peritoneum was enlarged to the full length of the wound and about two and one-half gallons of pseudomucin removed. The peritoneum was roughened and grayish in color, a multilocular cyst of the left ovary, weighing about six pounds, was found. The cyst was non-adherent and very thin-walled, and two of the loculi were perforated. The loculi that were not ruptured contained pseudomucin. A small multilocular cyst of the right ovary was also found. These cysts were removed and the peritoneal cavity was freed as much as was possible of the pseudomucin, and the wound closed without drainage. The patient made an uneventful recovery and was discharged from the hospital February 21st.

Microscopic report from Dr. W. L. Kenney: Tissue submitted to me presents, on gross examination, a mass of one gallon, made up of fully a hundred little cyst-like bodies; these are so loosely bound with connective tissue that they continually break in two in one's fingers, allowing great quantities of mucin to escape. At junction points of several of these cysts we selected tissue for microscopic examination. A few irregular, stellate cells were in evidence. These rarely contained more than one nucleus and are to be regarded as mucin cells not presenting any earmarks of malignancy. The connective tissue in the sections was amazingly scarce, but the nuclei were rather large in ratio to the whole cell mass, and did not always seem to conform to an ar-

rangement characteristic of adult tissue. The blood vessels seemed to have walls independently made up. On the whole, the aspect can not be said to be definitely malignant, yet the type of tissue predominating is so akin to embryonic tissue that a development of sarcoma in this class of cases is not surprising. It occurs to me that the extreme fragility of the tissue would make extremely difficult the task of entirely removing every vestige of the growth, and from a small remnant recurrence could happen, as in nasal polyp, and such recurrence need not be regarded as proof of malignancy and would be no bar to another attempt at eradication.

Conclusions: Pseudomyxoma peritonei may or may not be a malignant disease.

In operating, a careful search should be made for implantation cysts.

These must be thoroughly removed, and, as well, all the pseudomucin in the free peritoneal cavity.

The immediate danger in these cases is from sepsis, the pseudomucin furnishing an excellent culture medium for bacteria.

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DISCUSSION.

Dr. Frank Hinchey, St. Louis: While this condition is occasionally found in the female, in the male it is exceedingly rare. One of these cases in the male recently came to post mortem at the St. Louis Skin and Cancer Hospital, and I had an opportunity of witnessing it. Dr. McConnell, State Pathologist, has made a full report of it in a recent number of the "International Clinics." It originated at the appendix and the gelatinous masses had spread over the entire cavity, so that all the viscera were agglutinated, the omentum being remarkably infiltrated. Even the scrotal sack was filled, simulating a large hernia.

We have now at the same hospital a woman with a recurrence of the same condition, whose abdomen is distended to a circumference of 54 inches, causing two ulcerations at the site of the old scar, from which openings we are able to withdraw large quantities of the fluid from time to time, thus greatly relieving her.

Dr. Campbell: I wish to ask Dr. Hinchey whether the case reported in a male was such as to make certain the diagnosis of pseudomyxoma, and not colloid cancer.

Dr. Frank Hinchey: Dr. McConnell is known to all of you as an expert, and from a careful study of the case he made the diagnosis.

Dr. Campbell: I would like to have had access to that report. It might be that some pathologists would take issue with regard to all the conditions being present to prove the classification. I have nothing further to add.

THE COUNTY MEDICAL SOCIETY.

BY WILLIAM FRANCIS MITCHELL, M. D., LANCASTER, MO.

In the United States each state has its medical organization which is comprised of members who belong to their respective county societies. A physician is not now eligible to become a member of the state medical society unless a member of a county society. This is a very interesting matter to not a few who expect thereby to attend the state medical society, while a large number in every state belong to no organization whatever. The question why they thus stand aloof from the active members of the medical profession in this country, as a rule, is that they are selfish, or they feel their incompetence and are too lethargic to take any interest in scientific subjects. No man can now mingle in the society of physicians of the present time without exposing his ignorance or his imbecility, and rather than make an effort by industry in the study of subjects that naturally arise in public discussion in medical meetings, he remains at home and feebly tries to criticize such meetings as organizations that meet solely in their own interest and against the common welfare of mankind! Or, as one did in this community not many years since, seek the columns of the local papers and have everything put in print and represent himself as one of the greatest surgeons in the country. When he had a fifteen dollar puff in one issue of our local paper, I had the third section of article one of the code of ethics published at the same time. He remarked that he did not "care a damn for the profession as long as printer's ink paid him." He now lives in another state and belongs to a county medical society! There is yet another class so well represented by Oliver Wendall Holmes, the Rip Van Winkle doctor, who always since his long sleep has his wife to remind him when the state society meets. The only thing that he does is to swell the number in attendance, and return home to resume his usual place loafing and occupying his mind with matters far distant from the study of scientific subjects. Yet to hear him boastingly explain many things that pertain to medicine, he makes the impression of a very well educated man among the laity.

The county medical society should be more than the stepping stone to gain admission into the state and national associations. It should be the fellowship of medical men in the pursuance of the study of medicine and surgery. It should be the body of men who study the nature and history of contagious diseases, and should use all the means within their power to educate the public how to prevent their spread among the inhabitants of the country; for without being informed they cannot escape the dangers of infection. The people should be educated to avoid the charlatan as they would any other class of confidence men. The county

medical society should hold its meetings regularly, and all its members, if in their power, should attend; and not only attend but also make the endeavor to report their cases and discuss papers with intelligence and fairness, that harmony may exist. No progress is made unless good feeling prevails. It is by the dint of hard study and extensive reading that we expect to improve ourselves. It is by the discussion of subjects that we impress on ourselves and on our confreres the correct and lasting memory of what we have read. It is then learned not to be easily forgotten. In this way a number of diseases are studied and especially the diseases within our range of practice. Certain surgical cases, in many instances in country practice, occur only at long intervals and are liable to catch the surgeon unprepared, as it were, as he has forgotten much of the history and management of such cases, and is perplexed at the time he is called, what to do. If he has had occasion to hear such cases discussed in his county society meeting and has himself discussed the subject, and in order to be as well informed on the subject as others in the meeting, has carefully reread the subject after several authors, he perhaps will not be in as dangerous a position when he assumes charge of a case, as the man who has not had his attention called to the subject nor met such a case in years, if ever. This rivalry to know as much as our fellow practitioners is the kind of rivalry to cultivate. This disposition to understand clearly the history of disease and its treatment, to comprehend clearly what we read in the study of fractures and dislocations, or any other injury, to know the anatomy of the human body and to know the relation which each component part has with the other, or lay the knife aside, is what we need.

The duty of every physician to each other is expressed in the code of ethics in as clear and comprehensive language as need be, and no physician who has the welfare of his profession in his consideration, will object to complying with its requirements, nor should he fail to comprehend its instructions, and be governed by it. This seems to be the complaint of some who either wish to deal unfairly with members of the profession when they choose to do so, or claim the privilege of associating with charlatans, and they should be classed in that category. Dismiss them and let them go with the class to which they normally belong. The practice of medicine and surgery requires all the united energy of the whole profession—all studiously employed in not only learning what is taught by the masters of the art and of the science—but it is our duty to investigate, and it is possible that we may add something from our own research. It is the county medical society whose members are devoted to study, from whose labor there may be expected some advancement in the knowledge and treatment of disease.

The hospitals in our large cities are expected to do, and do, each year, render their reports with their experience and the results of their experience,—not experiments,—which are given us in the journals. We should not be satisfied with their work alone. The environments of pa-

tients in the country are not the same as in the crowded hospitals of the large cities. We have patients on the farm, out in the fresh air of the country, not disturbed by the noise and bustle incident to the city. We have disadvantages to contend with as the inconvenience of less means to treat our patients. We are taxed in our minds to arrange our sick rooms where room may be limited, or to provide in the surgical management of the patients injured. These measures are worthy the attention and should be studied and discussed in our local societies. There is no reason or excuse for the country doctor to be idle, not even if he is sitting in his office anxiously awaiting for business to get better. He has no excuse for hours of idleness. His time can be well employed in preparing his paper for the next monthly meeting, which he is expected to read and defend, yes defend, be able to sustain his treatment of disease and its nature and show conclusively that his paper does not bear any marks of plagiarism, but is a paper expressing his thoughts independently, with a clear manifestation of its originality. No man can have many ideas in his head on any subject, and especially on medical subjects, unless he reads the history of disease and the many dissertations which can be found on any subject pertaining to medicine and surgery. The idea has always prevailed among the leading writers that to discuss with their fellow members the nature and history of disease, giving them all a clearer light on the subject as one light taken into a dark room enables them to see over the room, but several lights brought into this same room enable all to see with more minuteness and bring little things which may be important to know into view. I may say to the young physician in particular if he has within his breast a desire to stand high in the annals of his own time,—and time if leisurely spent cannot be redeemed,—he should join his county medical society. If there is none, he should seek to have one organized and when one is established he should from the very beginning take an active part in its deliberations. What man at this time whose reputation is national or perhaps known all over the civilized globe, that does not belong to his county medical society and began his career in obscurity? He has been industrious and has been employing his time in reading,—he has examined many treatises on disease. His microscope is one of his witnesses. As the days came he continued busy, and far in the night he is still employed. At the county medical society meeting he was one of the members that could intelligently discuss the papers read, and read papers himself. With his trained mind and his strong physical development he continued his work with pleasure till he grew out, I might say, of the village to the city. The young man who builds up the hope that some day he will write his name beneath the names of Samuel D. Gross, E. McDowell or J. Marion Sims on the scroll of fame, need not attempt it unless he begins on the first rung of the ladder, the county medical society. He takes the lessons of research in scientific subjects in his younger days. He becomes a neat, clear, incisive writer at the county medical meeting. Then he

enters, if he has perseverance, into the meetings both state and national. If he entertains an idea of reaching a high altitude in the medical profession he should recall the old hymn of Watts:

> Shall I be carried to the skies on flowery beds of ease,
> Whilst others fought to win the prize and sailed through bloody seas?

While there is a difference in the mentality of individuals, much depends on the habits of study and reflection on the subjects read, and all who succeed will have to work; an active county medical society will be of much aid to all, and, further, it is the right way to keep abreast of the times, not only making better physicians but giving the laity a chance to learn what the profession is doing, in teaching them the character of the charlatan, of the worthlessness of patent medicines, that the good physician is a devoted humanitarian. When I look over the American Medical Directory and see an occasional name of a former friend whose name appears in small letters, I pity him when I think that he does not esteem himself high enough to join his county medical society. If he should ever wake up in his old age and look around him, with his fragmentary knowledge dimmed by the long lethargic life spent in ways foreign to the way of active, dutiful professional men, he will only fold his hands and resign himself to the desuetude of the man who failed to plow or plant for the reason of the cold in the springtime of life, and pass out of existence to be forgotten.

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ADDRESS ALL COMMUNICATIONS TO METROPOLITAN BUILDING, ST. LOUIS, MO.

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E. J. GOODWIN, M. D., Editor.

PUBLICATION COMMITTEE:

Walter B. Dorsett, Chairman. M. B. Clopton, M. C. Shelton.

EDITORIAL

RECOMMENDATIONS OF THE COMMITTEE ON PUBLIC POLICY AND LEGISLATION.

The Committee on Public Policy and Legislation met in St. Louis on October 24th and discussed a number of important questions relative to medical legislation. The Committee carefully considered the various suggestions submitted to it and recommends the advocacy of several measures. These are, first, to enlarge the powers of the State Board of Health by clothing that body with authority to subpoena witnesses to appear before it and compel the introduction of documents that may have a bearing upon any case at trial; second, to amend the appeal clause so as to remove all ambiguity; third, to prevent corporations from practicing medicine; fourth, to limit the time in which damage suits against physicians may be filed; fifth, to amend the present law defining prior registration.

All these questions are now being considered by the attorney engaged by the Committee for his consideration as to the best legal manner in which these suggestions might be introduced in the legislature. The Committee believes these five questions are the most important ones for the Association to take up and press at this time. Every member of the Association is urged to communicate with his representative and senator

and ask for the support of all bills introduced by the State Board of Health or the Missouri State Medical Association.

Several other questions were considered by the Committee, namely, an act to provide for the collection of vital and mortuary statistics; second, to divorce the examining board from the State Board of Health; third, to appoint local boards of health, or any law to make the State Board of Health the agent of the State for the dissemination of hygienic and sanitary measures. The first and second of these questions are at present under consideration by the national committee of the American Medical Association, which committee is preparing uniform laws governing these points for adoption in all states; the third question is pending before the State Board of Health. The Committee feels therefore that it should await action by these bodies upon the questions at issue before attempting to bring these matters to the attention of the legislature. The question of preventing corporations from practicing medicine is now being considered by attorneys and a bill to cover this point will be introduced by the Missouri State Dental Association.

In addition to the above mentioned questions the Committee was requested to consider two other propositions, namely, one looking to aid the profession in the collection of one class of bills for professional services, and the other to reimburse physicians for one-half of their professional contributions to charity. Concerning these two questions the Committee is of the opinion that the time is not opportune for the introduction of bills carrying these provisions.

The Missouri State Nurses' Association is endeavoring to secure the passage of a law requiring the registration of graduate nurses and asked the Committee to endorse this movement. The Committee extended its approval of the bill on condition that the educational requirements for entrance to a nurses' training school shall be a common or grammar school course instead of a high school course.

The present law governing prosecutions for criminal abortion is considered to be ample and clear. The Committee believes that it will be unwise to amend this law in any particular until its application has been tested in the courts, and defects, if there are any, judicially announced. An ex-judge of the Supreme Court of Missouri directed and supervised the framing of the law, and the Committee considers that sufficient time has not elapsed since its adoption to judge of its efficacy in its present form.

PROGRESS IN THE FIGHT AGAINST TUBERCULOSIS.

The recent International Congress for the Study of Tuberculosis showed that a wonderful advance had been made during the last decade. In all of the departments the keynote was courage. Three important steps have been made. First of all, and so generally acknowledged that the statement seems a truism, is the fact that tuberculosis is communicable. Following this, the logical conclusion is also accepted that it is preventable. Lastly, clinical evidence has given us the proof that it is curable.

Upon these three fundamental principles rests the superstructure of hospital and sanitarium work, of municipal control, of pure food and pure milk service, of bacteriologic test and differentiation, a better knowledge of pathology in the several stages, and a more exact interpretation of the physical signs. The field of study is so wide that already it is subdivided and special workers are pushing their investigations in many directions.

In the recent discussions and exhibits at Washington, it was generally admitted that our American scientists were well to the front. Smith, Ravenal and Vaughn were at no disadvantage in debate with Koch, Calmette and Landouzy, while our clinicians were on equal footing with the best from abroad. Two thoughts are pressed home to us in reviewing the transactions of this great Congress. First, gratification that our own workers have done so much. Second, a sense of personal responsibility in that so much remains to be done—which we must do.

It is not our purpose here to outline the meeting at Washington, but rather to emphasize the second thought,—that of our responsibility towards the work in our own State. The committee representing Missouri presented to the Congress a booklet entitled "What Missouri is Doing." The record therein showed that we were well in the van and that, while we could not equal some of the eastern states in the intrinsic value of oganized work, we were fully in touch with them in the several features and methods employed.

We ask for the earnest attention of our readers in Missouri as we point out some of the ways in which this great work is being carried on. Helpers are needed, practical, aggressive men with large hearts and brains, to aid in the work of reducing the death-rate of 5,000 annually and the economic loss of $22,000,000 each year in our State, at least one-half. This is no Utopian vision, for it has been done elsewhere.

Our agencies are: 1st, our State and local associations. We have twelve of these and the next year should show twice as many. Here is personal service ready for each physician. Organize a home society

and teach your people by example, precept, lecture and the aid of the press, the easy methods of limitation and the ready ways to early recognition. 2nd, our "Institutions for the Cure of Consumptives." We have two such in Missouri, and both of them are not only objects of the greatest satisfaction to those who know them, but of exceeding value as object lessons to the people of our State. Mt. St. Rose, which cares for patients in all stages, has had a wonderful record. It was opened about six years ago under the care of the Sisters of St. Mary and has received over 1,700 patients. The large building is always full, and an addition is soon to be made which will increase its accommodations to twice the present capacity.

Most of our readers are familiar with the work at Mt. Vernon in the State Sanitarium for Incipient Tuberculosis. It has been open a little over a year and has now nearly eighty incipient cases—all doing well. With the exception of two cases, which were not incipient and were cared for only because it would have been inhuman to have sent them away, there have been no deaths. The record of gain and arrest is not excelled by any institution in the land and our legislators may well be satisfied with this investment of State money for the benefit of its citizens.

Our members can do much to help this most valuable work by asking their representatives to plan liberal things for the furtherance and maintenance of the State Sanitarium for Tuberculosis. The appropriation of $10,000 was all too small and it was feared, in August, that the institution would have to close. Only the good management of the present executive and great care on the part of the board of managers, have prevented this. When it is known that the eighty cases are cared for by the Physician in Charge (who now has also to perform the duties of general superintendent), with only two nurses—one of these acting also as stenographer and the other an ex-patient,—it may be seen how great are the straits now handicapping the work.

Another need is that this and all our eleemosynary institutions be taken out of politics. Those chosen to care for and manage these great hospitals should be men who have learned that he serves his party best who serves his State best. We here promise that our every effort shall be to accomplish this most desirable end and we ask the active help of every member of our profession. It is with great anticipation that we note the promise of our Governor-elect to see that politics are eliminated from the service of our hospitals and asylums.

In a later issue we will speak of needed and accomplished legislation and the work of the St. Louis Municipal Commission on Tuberculosis. The report of the Commission will soon be ready and we hope for some decided and advanced action following its presentation.

MEDICAL ASSOCIATION OF THE SOUTHWEST.

The Medical Association of the Southwest met in Kansas City, October 19, 20, 21, and established itself firmly in the esteem of the medical profession of the Southwest as a body that will exert a powerful influence in the medical history of this section of the country. It was the second annual meeting of this Association, and under the presidency of Dr. T. E. Holland, of Hot Springs, Ark., every element which makes for the success of such gatherings was taken advantage of and utilized to the fullest extent. Over two hundred members were in attendance and all expressed an enthusiastic belief in the future of this new organization.

The set program of papers was well diversified and defections few, while the discussions were animated, intelligent and pointed. A specially interesting feature of the meeting was the attention given to clinical work, and every morning a clinic was held in one of the hospitals. Opportunities were thus afforded to visiting physicians to observe many practical demonstrations in the treatment of various conditions.

We predict for this Association a wide and beneficial influence in medical affairs, for it numbers among its members many who have risen to high eminence in the profession and many others whose work and worth will be an honor to them and to the Society. Kansas City, with its usual disregard of its own affairs when host to distinguished visitors, provided entertaining features which left nothing to be desired. The automobile drive over the boulevards, including the famous Cliff Drive, was one of the most enjoyable events of the meeting.

This Association should receive every possible support from the five states which are represented in its membership, and the journals of these state associations should give space for publication of the papers read at the meetings, in order that the fullest possible publicity of the work of this growing body may be disseminated among the members of these state associations.

The next meeting will be held in San Antonio, Texas. Dr. Jabez N. Jackson, of Kansas City, was elected president, and Dr. F. H. Clark was re-elected secretary.

EDITORIAL NOTES

Dr. C. E. Woody, health commissioner of Springfield, has been making investigations of the plans and methods used in other cities with reference to the inspection of the milk supply. There will be an effort made by the medical profession of Springfield to have an ordinance passed establishing a system of milk inspection in that town.

At the Meeting of the State Board of Health, held in St. Louis October 27th, the Barnes Medical College was approved as a reputable medical college for the present scholastic year, it having installed the necessary laboratories and equipments required by the minimum standard of the Board.

The Missouri State Association of Nurses held a three days' session in Kansas City, October 14, 15 and 16. A feature of the meeting was the adoption of a resolution to push a bill through the next legislature, creating a law to require all graduate nurses to pass an examination before a committee of nurses, and establish a system for registration of graduate nurses.

At the Annual Meeting of the National Association of Retail Druggists, September 14, 1908, resolutions were adopted favoring the establishment of a department of public health at Washington; expressing appreciation of the efforts of the American Medical Association to stimulate an increased demand for U. S. P. and N. F. preparations; an increase in the number of hours in medical colleges devoted to the study of therapeutics; and favoring the passage of laws in all states requiring druggists to make a record of all sales of cocain and eucain, or any of their salts or synthetic substitutes.

The Southwest Missouri Medical Society met in Springfield, October 29 and 30, and disposed of an interesting program of fifteen papers. There was a good attendance of the physicians in that vicinity and a number of invited guests and visitors from other parts of the state. This Society has been in existence for thirty years and is doing much good work in maintaining the interest of its members in the progress of all branches of medicine. Dr. W. P. Patterson, of Springfield, is president, and Dr. H. S. Hill, of Springfield, is secretary.

The Various Medical Societies of St. Louis have been active in endeavoring to secure the passage of a competent milk inspection bill by the municipal assembly. Delegates from the St. Louis Medical Society, the North St. Louis Medical Society, the Medical Society of the City Hospital Alumni, and allied organizations, appeared before the assembly and argued for the passage of the proposed bill. St. Louis is at present without protection against the adulteration of her milk supply, the present law having been pronounced unconstitutional because of conflict with the state law.

Another matter of general public interest in which the medical profession has taken an active part, is the proposal to buy the old Fair Grounds and convert the site into a public park.

The Southeast Missouri Medical Association met in Jackson for a two days' session on October 29th and 30th. Dr. Hamel, of De Soto, addressed the body, giving a short history of the Association. He stated that the Association was organized in 1873 and has exercised a highly beneficial effect in keeping up the standard of the medical profession in that section of the State. Dr. Hamel also outlined the work which the State Board of Health has done and contemplates doing, and pointed out the benefits that accrue from the intelligent administration of the important functions of that body. Dr. Guthrie McConnell, State Bacteriologist, was present and delivered an interesting address on bacteria; he also demonstrated many interesting tests under the microscope. The meeting was well attended.

The Following Articles have been approved by the Council on Pharmacy and Chemistry:

Tabloid Ergotinine Citrate (Burroughs Wellcome & Co.).

Tabloid Ergotinine Citrate and Strychnine Sulphate (Burroughs Wellcome & Co.).

Tabloid Hypophosphites Compound (Burroughs Wellcome & Co.).

Enule Soap Compound (Burroughs Wellcome & Co.).

Gr. Eff. Caffeine and Potass. Bromide Comp. (H. K. Mulford Co.).

Gr. Eff. Carlsbad Salt (Artificial) (H. K. Mulford Co.).

Gr. Eff. Sodium Sulphate (H. K. Mulford Co.).

Eusemin (Leonard A. Seltzer).

From the former list, Syrup Hydriodic Acid (R. W. Gardner) has been omitted.

PERSONAL AND NEWS NOTES

Dr. W. W. Graves, of St. Louis, has returned from a sojourn of seven weeks in the medical centers of the East.

Dr. F. J. Lutz, who attended the International Surgical Society in Brussels, has returned to St. Louis.

Dr. Alexander E. Horwitz has returned to St. Louis after a trip of several months in Europe. He has offices in the Metropolitan Building.

The Johnson County Medical Society will in future meet once a month. Hitherto meetings were held quarterly.

Dr. J. R. Hallowbusch, Rock Island, Ill., was elected president of the American Association of Railway Surgeons on October 16th. The next meeting will be held in St. Louis in October, 1909.

The Following Medical Staff of St. Luke's Hospital, in Kansas City, was appointed recently: Drs. Virginus W. Gayle, L. G. Taylor, Joseph W. Sherer, David E. Broderick, Herbert C. Anderson, Herman E. Pearse, Ernest F. Robinson, Newton W. McVey, Edward H. Skinner, William W. Stevens, J. D. Griffith, George C. Mosher, Halsey M. Lyle, J. W. Gains, Robert T. Sloan, S. Grover Burdett, and B. F. Fryer.

At the Regular Meeting of the board of control of Levering Hospital, Hannibal, the following assignments were made for the medical staff for the year: Drs. James N. Baskett, Thomas Chowning, Charles E. Paxon, Henry L. Banks, John J. Bourn, Robert H. Goodier, Archie L. Shanks, Richard Schmidt, Elmer E. Waldo, Clifton R. Dudley, Edward H. Bounds, I. E. Hill, W. Cloyd Guss, Ulysses S. Smith, Edward T. Hornback, James S. Howell and I. E. Hill.

The Health Department of St. Louis is endeavoring to secure an ordinance requiring that all second-hand clothing stores, pawnshops, and such like places, be fumigated from time to time. In Kansas City also the health authorities are actively engaged in securing a similar law. Such a law is in effect in all the large cities of the country and St. Louis and Kansas City in this respect are perhaps the only ones in which the health department has no supervisory control over these disease breeding places.

The Southern Surgical and Gynecological Society meets in St. Louis December 15, 16 and 17. Dr. F. W. Parham, of New Orleans, is president and Dr. W. D. Haggard, of Nashville, is secretary. Dr. John Young Brown is chairman of the committee of arrangements. This Association includes an unusual number of distinguished physicians in its membership and at every yearly gathering the proceedings are marked by the high quality of the papers read. We anticipate great pleasure in the privilege of entertaining, at the meeting in December, Drs. Ochsner, Deaver, Price, Bevan, Matas, Cushing, Murphy, Reed, McMurtry, the Mayos, and many others of equal eminence in the profession. Among the members in St. Louis are Drs. Tuholske, Glasgow, Bartlett, Kirchner and Dorsett.

The Medical Societies of St. Louis entertained a number of eminent European and American physicians during the past few weeks. Professor W. von Leube, a noted authority on tuberculosis, was banqueted by the members of the Verein Deutscher Aerzte and the Medical Department of the Washington University. Prof. von Leube delivered a public address on tuberculosis.

Prof. Clemens von Pirquet, famed for his investigations of the cutaneous reaction of tuberculin in children, was the guest of the St. Louis Medical Society and delivered an address at a joint meeting of the Medical Society of the City Hospital Alumni and the St. Louis Medical Society.

Dr. M. G. Mumford, of Harvard University, was entertained by the St. Louis Medical Society on October 29th and addressed the Society on the subject of "Studies in Cancer." He reviewed the history of cancer and pointed out the recent progress that has been made in efforts to control this fateful disease. A feature of the entertainment was a smoker, following the formal address of the evening. A committee of ladies served refreshments and the occasion was made one of general social pleasure.

CHANGES OF ADDRESS.

Dr. E. G. Beers, from 406 W. Walnut St., to 306 S. Campbell, Springfield.

Dr. J. T. Bickel, from Winston to Mountain View.

Dr. F. H. Brunig, from 310 Altman Bldg. to 1331 Penn St., Kansas City, Mo.

Dr. John C. Buckwalter, from 309 Century Bldg., St. Louis, to Union, Miss.

Dr. R. E. Castelaw, from 13th & Woodworth to 30 E. 35th St., Kansas City.

Dr. J. W. Conard, from Sumner to Albany.

Dr. W. M. Cross, from 3600 Troost to 4415 Harrison, Kansas City.

Dr. B. C. Darling, from 621 Commerce Bldg. to 90 State St., Brooklyn, N. Y.

Dr. C. W. Gosney, from 720 Shukert Bldg. to 310 Rialto Bldg., Kansas City.

Dr. Harry S. Hughes, from 1234 Hodiamont to 3714 Connecticut St., St. Louis.

Dr. B. C. Hyde, from 404 Bryant Bldg. to 521 Keith & Perry Bldg., Kansas City.

Dr. P. A. Johnstone, from Shukert Bldg. to 3340 Olive St., Kansas City.
Dr. J. W. Kyger, from 515 E. 31st St. to 3213 Troost, Kansas City.
Dr. T. McLemore, from Nevada, Mo., to Humboldt Bldg., St. Louis.
Dr. A. H. Myerdick, from 1704 N. Grand Ave., to 4112A Lee Ave., St. Louis.
Dr. W. S. Shirk, from Sedalia, Mo., to Kansas City.
Dr. Loren Swaney, from Hickman Mills, Mo., to 4641 Troost, Kansas City.
Dr. T. B. Todd, from Webb City to Adrian.
Dr. Edwin E. Whiteside, from Bellflower to River Aux Vases.
Dr. O. O. Young, from Kansas City to Lee's Summit.

NEW MEMBERS MISSOURI STATE MEDICAL ASSOCIATION.

Atkins, Henry S., City Asylum, St. Louis.
Babcock, Bert W., 3449 Chippewa St., St. Louis.
Barnett, D. E., New Hartford.
Berry, J. M., Webster Groves.
Briggs, Waldo, 2600 Gamble St., St. Louis.
Buck, S. B., Triplett.
Byrnes, R. W., Frankford.
Carley, Harry D., 3419 Bell Ave., St. Louis, Mo.
Casey, S. A., Lebanon, Mo.
Eatherton, J. W., Eureka, Mo.
Engman, Martin F., Humboldt Bldg., St. Louis.
Fair, S. W., Belton.
Fienup, Theodore, 1401 S. Broadway, St. Louis.
Fischel, Washington E., Humboldt Bldg., St. Louis.
Fisher, Amos T., Maryville.
Frisler, J. W., Jackson, Mo.
Gallagher, J. C., Valley Park, Mo.
Ganaway, A. M., Gentryville.
Gehrung, Eugene C., Hotel Beers, St. Louis.
Golland, Michael, 1519 Carr St., St. Louis.
Grady, L. C., Ladue.
Griffin, S. H., Humansville.
Hall, Willis, Humboldt Bldg., St. Louis.
Hampton, Z. M., Centralia, Mo.
Harris, Rufus C., 1303 N. Garrison Ave., St. Louis.
Highbee, Edward H., 416 Metropolitan Bldg., St. Louis.
Horwitz, Maximillian R., 353 Century Bldg., St. Louis.
Jennings, Robert J., R. F. D. No. 17, Windsor.
Jeude, Julius J., 2521 S. Broadway, St. Louis, Mo.
Kouri, Martin F., 1041 S. Taylor Ave., St. Louis.
Kraft, Albert J., Augusta.
Leavy, Charles A., 426 Metropolitan Bldg., St. Louis, Mo.
Lippe, Meyer J., 4321 W. Belle Pl., St. Louis.
Loeb, Clarence, Humboldt Bldg., St. Louis.
Loving, S. R., R. F. D. No. 22, Centaur, Mo.
McConkey, C. M., Lathrop.
McKay, Harvey S., 1810 S. Jefferson Ave., St. Louis.
Merz, Adolph, 3404 Cherokee St., St. Louis.
Missimore, Louis E., 4107 Finney Ave., St. Louis.
Moore, John W., 906 Pine St., St. Louis, Mo.
Mosby, Charles V., 713 Metropolitan Bldg., St. Louis.
Mueller, Vincent J., 823 N. 11th St., St. Louis.
Murray, Samuel A., Holden.
O'Reilley, Robert J., 1107 N. Grand Ave., St. Louis.

Porter, Wood K., Turney.
Porterfield, Elmo P., Humboldt Bldg., St. Louis.
Reece, W. C., Elvins.
Rohlfing, Arthur H., 4321 Hartford St., St. Louis.
Rootes, Geo. F., Tebbetts.
Royston, Grandison D., 1814 Locust St., St. Louis.
Rumbold, Frank M., 450 Century Bldg., St. Louis.
Russler, Jacob J., 2620 S. Jefferson Ave., St. Louis.
Scherck, Henry J. 309 Century Bldg., St. Louis.
Smith, O. A., Farmington.
Straus, Leon, 805 N. Grand Ave., St. Louis.
Stufflebam, Andrew J., Humansville.
Todd, D. Clay, 4115 Finney Ave., St. Louis.
Tucker, C. A., Springfield.
West, W. D., Mindon.
Wolf, Alexander S., 4500 Olive St., St. Louis.

NEW MEMBERS OF THE AMERICAN MEDICAL ASSOCIATION FROM MISSOURI.

Andrews, John, Grant City.
Best, W. W., Bolckow.
Blair, E. G., Kansas City.
Brown, F. H., Billings.
Butler, L. P., St. Louis.
Casey, S. A., Lebanon.
Gebhart, O. C., St. Joseph.
Hayden, J. G., Kansas City.
Hopkins, Ross, St. Louis.
Johnson, W. L., St. Louis.
Mount, R. L., Polo.
Newman, S. E., St. Louis.
Pitts, Barton, St. Joseph.
Sanders, St. Elmo, Kansas City.
Scholz, R. P., St. Louis.

OBITUARY

AMOS H. CAFFEE, M. D.

Dr. Amos H. Caffee, one of the oldest practitioners in southwest Missouri, died at his home in Carthage, on October 24th, aged 74 years. Dr. Caffee was born in Newark, Ohio, in 1834, where he spent his boyhood and early manhood years. He attended medical lectures in Cincinnati, and in 1858 moved to Missouri, locating at Sarcoxie, then a leading town in that section of the State. After practicing at this place for two years, he moved to Carthage, in which town he made his permanent residence. At the outbreak of the Civil War, Dr. Caffee enlisted in the Union army and was appointed first assistant surgeon of the First Arkansas Cavalry. In 1864 he was made surgeon of the 14th Kansas Infantry. At the close of the war he returned to Carthage and took up the active practice of his profession.

Dr. Caffee was one of the proprietors of the first drug store in Jasper County, was one of the organizers of the Central National Bank of Carthage, and was interested in a wholesale drug house in Joplin. He was twice chosen mayor of Carthage and served a term as treasurer of Jasper County. He was a prominent member of the Masons, Elks, and other fraternal organizations. For many years he was an active member of the Jasper County Medical Society.

During his long residence in Carthage, Dr. Caffee commanded the respect, esteem and regard of the entire community. He was a prominent figure in every movement which had for its object the welfare of the community and the improvement of the city. His death is felt to be a loss to the entire community.

REPORT OF THE COMMITTEE ON MEDICAL EDUCATION OF THE MISSOURI STATE BOARD OF HEALTH, MADE OCTOBER 27TH, 1908.

(FROM THE RECORD OF THE MINUTES OF THE BOARD.)

Your committee made the second annual inspection, according to the resolution passed by the Board, of the Barnes Medical College, the College of Physicians and Surgeons of St. Louis, the Ensworth-Central Medical College of St. Joseph, the University Medical College of Kansas City, the Hahnemann Homeopathic Medical College of Kansas City, the Homeopathic Medical College of St. Louis, the American Medical College of St. Louis, the Medical Department of the St. Louis University and the Medical Department of the Washington University.

It is gratifying to your committee to report the very obvious improvement in the lecture schedules, in the laboratory equipment and the clinical facilities which has been brought about by compliance on the part of the medical colleges with the laws of this state as interpreted by this Board.

There are as yet defects to be cured but to all appearances the schools are making determined efforts to compiy with the minimum standard promulgated.

We make the following detailed report:

THE BARNES MEDICAL UNIVERSITY: Number of students matriculated in 1st year, 19; 2nd year, 31; 3rd year, about 38; 4th year, 36; total, 124. Since this committee last inspected the Barnes Medical College, we find that laboratories have been established and equipment installed as is required by our minimum requirements. Daily record is kept of the outdoor, general and special clinics and, according to the record, there have been from the first of September, 1907, up to the last of October, 1908, 10,014 consultations in the clinics.

The obstetric clinic does not furnish opportunities such as are required by our minimum standard. According to the verbal statement of Dr. Rice, the professor of obstetrics, there were at the disposal of his department for clinical instruction during the past year 20 cases of obstetrics to be divided among 80 students. No record was kept of these cases from which to verify the statements made by the teacher.

Your committee recommends that the following communication be sent to the Dean of the Barnes Medical University:

"The committee of the State Board of Health appointed to inspect your medical college made its report to the Board and recommended that the Barnes Medical University be considered a reputable medical college under the law for the present scholastic year, but that its faculty

be notified that improvement is urgently necessary in the department of obstetrics and should be corrected; and that the college be requested to notify the Board what plans it has for doing this."

This report of the committee was adopted by the Board and the secretary instructed to bring it to the attention of the Barnes Medical University.

THE ST. LOUIS COLLEGE OF PHYSICIANS AND SURGEONS: Number of students matriculated in 1st year, 30; 2nd year, 26; 3rd year, 44; 4th year, 57; total, 157. Your committee finds that the apparatus which the college promised to install, and for the installation of which it furnished documentary evidence when your committee last made its report concerning it, has been placed and is in working order.

The clinical opportunities for learning obstetrics during the last year was confined to incomplete records of 21 cases, which were attended by the class.

Your committee recommends that the following communication be sent to the College of Physicians and Surgeons:

"The committee of this Board which has inspected your medical college for the purpose of determining whether it complies with the minimum requirements established by the Board under the law, finds that during the last year 21 cases of obstetrics furnished the clinical material for teaching. This number is not adequate for furnishing proper instruction. The board awaits an answer at an early date concerning the plans which you may have for bringing this department of your medical college up to the minimum standard.

The committee has also reported that the clinical records which this committee had opportunity to inspect did not enable it to arrive at definite conclusions concerning the attendance of patients upon the clinics. The data which are the basis of our conclusions are furnished in summaries by the clinicians.

You are respectfully requested to provide such records as will enable the Board to determine your clinical facilities from them."

THE ENSWORTH-CENTRAL MEDICAL COLLEGE OF ST. JOSEPH: Number of students matriculated in 1st year, 14; 2nd year, 13; 3rd year, 16; 4th year, 26; total 69. Your committee inspected the Ensworth-Central Medical College of St. Joseph and found the laboratory equipment installed, the added clinical opportunities, in the shape of a wing to the adjacent hospital, in operation, and the clinical and obstetric opportunities in conformity with the minimum requirements.

THE KANSAS CITY UNIVERSITY MEDICAL COLLEGE: Number of students matriculated in 1st year, 41; 2nd year, 25; 3rd year, 47; 4th year, 46; total, 159. A thorough inspection of the clinical and laboratory facilities of the University Medical College by your committee shows that

the minimum requirements of this Board have been complied with in all departments except in that of physiology. The laboratory equipment for the freshman class is sufficient, under our minimum requirements, for only one-half the class, and your committee respectfully recommends that the college be notified that either the class should be divided into two sections to be given separate instruction, or else additional equipment be installed.

Your committee recommends that the secretary be instructed to notify the college of this conclusion of the Board and request an official answer at an early date.

THE HAHNEMANN HOMEOPATHIC MEDICAL COLLEGE OF KANSAS CITY: Number of students matriculated in 1st year, 24; 2nd year, 8; 3rd year, 16; 4th year, 15; total 63. The Hahnemann Homeopathic Medical College of Kansas City has installed the laboratory apparatus concerning which defects were pointed out last year and for which the Board has documentary proof, as required by the standard fixed by this Board.

Its clinical opportunities are still deficient and your committee recommends that the secretary be instructed to notify them that provision must be made by them to bring the clinical instruction up to the minimum standard of this Board.

THE ST. LOUIS UNIVERSITY MEDICAL DEPARTMENT: Number of students matriculated in 1st year, 60; 2nd year, 59; 3rd year, 79; 4th year, 47 (4 special); total 245. The St. Louis University Medical Department fully meets the requirements of the law governing the reputability of a medical college.

THE WASHINGTON UNIVERSITY MEDICAL DEPARTMENT: Number of students matriculated in 1st year, 55; 2nd year, 27; 3rd year, 51; 4th year, 49; total 182. The Medical Department of Washington University complies in all respects with the requirements of this Board concerning medical colleges.

THE AMERICAN MEDICAL COLLEGE: Number of students matriculated in 1st year, 7; 2nd year, 7; 3rd year, 7; 4th year, 7; total 28. The American Medical College has the laboratory equipment required by the minimum requirements.

Its obstetric record shows that there were a sufficient number of cases, but the record of their general clinics is very deficient.

We recommend that the school be notified that in future the college must furnish such clinical records as will enable the Board to determine from them the clinical facilities.

THE HOMEOPATHIC MEDICAL COLLEGE OF MISSOURI: Number of students matriculated in 1st year, 2; 2nd year, 3; 3rd year, 5; 4th year, 4; total 14. The Homeopathic Medical College of Missouri is short in the following physiologic apparatus, namely:

There are no tambours, no muscles levers, no time markers, no heart levers and no moist chambers.

In the department of histology there is no apparatus for injecting blood vessels.

The faculty promised this committee to furnish a lecture schedule showing that a graded course is being conducted according to our minimum requirements and to furnish such a plan for making up the lost lecture and laboratory hours since the course of lectures began.

Your committee has also been promised the obstetric and general clinical record.

The committee was instructed to request the Medical Departments of the University of Missouri and of the University of Kansas to furnish to this Board such information as will enable the Board to judge of their reputability.

EXAMINATION QUESTIONS STATE BOARD OF HEALTH OF MISSOURI, JUNE 1, 3, 5, 1908.

ANATOMY.

(1) Give branches and relationship of internal carotid artery.

(2) Mention all structures divided in amputation of thigh at junction of middle and upper third.

(3) Give the anatomy of the uterus.

(4) Give landmarks for locating: a. Appendix Vermiformis. b. Gall bladder.

(5) Describe the wrist joint in detail.

(6) Name and locate the sinuses of the dura-mater.

(7) Name all thigh flexor muscles.

(8) Give minute and gross anatomy of the tongue.

(9) Describe the anterior triangle of the neck, naming contents.

(10) Describe the tibia.

BACTERIOLOGY.

(1) How are bacteria imported into wounds? Give in detail the precautions necessary to prevent their introduction.

(2) Describe some method of sterilization and disinfection. (Not less than 200 words.)

(3) Describe the clinical manifestation of the gonococcus as observed in the female genital tract.

(4) Describe the bacteriology of puerperal infections.

(5) Differentiate between the tubercle and the smegma bacillus.

CHEMISTRY.

(1) Distinguish between organic and inorganic chemistry. (Not less than 100 words.)

(2) Give chemical properties, toxicology and treatment for poisoning by acetic acid.

(3) How do you determine quantity of urea in urine?

(4) Differentiate chemically cow's milk and human milk.

(5) Give tests for morphine, carbolic acid and strychnine.

GYNECOLOGY.

(1) Describe laceration of cervix uteri; giving causes, complications, common results and method of treatment.

(2) Describe endometritis; give treatment.

(3) Differentiate a fibroid tumor from pregnancy.

(4) Differentiate inversion of uterus from uterine polypus. Give treatment of inversion.

(5) Describe carcinoma uteri; give treatment.

OBSTETRICS.

(1) Give advantages, disadvantages and dangers of the use of chloroform in labor.

(2) Give manner of applying forceps and mechanism of delivery in R. O. A. position.

(3) How would you distinguish a foot from a hand presentation. Give management of such cases.

(4) Give symptoms and treatment of threatened abortion.

(5) Define asphyxia neonatorum. Give treatment.

(6) Give method of caring for cord in new born.

(7) Discuss rupture of uterus. Give treatment of same.

(8) Discuss vomiting of pregnancy. Give treatment of same.

(9) Diagnose death of foetus in utero at sixth month.

(10) Describe placental circulation.

PATHOLOGY.

(1) Give pathology of interstitial nephritis.

(2) Give pathology of arthritis deformans.

(3) Discuss the formation of cysts.

(4) Describe the blood changes in chlorosis.

(5) Give pathological findings in tertiary syphilis.

PHYSIOLOGY.

(1) In what organ is lymph most rapidly formed.

(2) Describe the sense of smell.

(3) Describe the liver and give its functions.

(4) Name the digestive ferments and give function of each.

(5) Describe the process of secretion of urine.

(6) Describe the spinal cord and give its function.

(7) Locate and describe the area in brain presiding over speech.

(8) Give the circulation of the blood.

(9) What is the difference between striated and non-striated muscular tissue.

(10) What effect does removal of pancreas always have?

PRACTICE.

(1) Describe Cheyne-Stokes respiration.

(2) How would you differentiate cerebral hemorrhage from opium poisoning.

(3) Give treatment in each condition.

(4) Give chief diagnostic test for malaria.

(5) Give symptoms and treatment of chorea.

(6) Give etiology, symptoms and treatment of cystitis.

(7) How would you differentiate cancer of stomach and gastralgia?

(8) Give diagnostic symptoms and treatment of glaucoma.

(9) Give etiology, symptoms and treatment of cholera infantum.

(10) Write a brief but comprehensive paper on constipation. (Not less than 150 words.)

SURGERY.

(1) Describe in detail the examination and treatment of a scalp wound.

(2) Give the pathology and the treatment of non-infective bursitis of the prepatellar bursa.

(3) Describe spina bifida and its treatment.

(4) Describe the boundaries and the treatment of an ischio rectal abscess.

(5) Describe the symptoms, course and treatment of acute infective lymphangitis.

(6) Give the differential diagnosis between syphilis and carcinoma of the tongue.

(7) What is the pathology and what are the early symptoms of spondylitis?

(8) Give the diagnosis and treatment of carbuncle.

(9) What are the constitutional effects of cold; what is meant by a frost bite; describe its treatment.

(10) What are the symptoms of strangulation in a hernia?

THERAPEUTICS.

(1) In case of fevers, which of the two remedies would you administer, aconite or gelseminum? Give indications for each.

(2) In case of weak heart, why would you give an injection (hypodermically) of strychnine and of what strength?

(3) What are the therapeutical uses of ergot?

(4) Give the physiological and therapeutical action of digitalis.

(5) What is the source and composition, and what are the derivatives of belladonna?

(6) Describe the physiological action upon the different parts of the organism of belladonna.

(7) What is camphor and what are its varieties, preparations and doses?

(8) What is valerian, what are its physiological and therapeutical actions?

(9) What is the physiological and therapeutical action of caffeine?

(10) How would you treat a case of acute alcoholism?

COUNTY SOCIETY NOTES

CALDWELL COUNTY MEDICAL SOCIETY.

The Caldwell County Medical Society met in its fourth quarterly meeting at Braymer, on October 14th. The following members were present: Drs. S. D. Smith, J. O. Wilkerson, B. F. Carr, R. L. Mount, J. A. Waterman, G. W. Goins, C. O. Dewey, W. T. Lindley, W. H. Aplin, Tinsley Brown, C. C. Leeper, C. L. Woolsey, C. B. Woolsey, G. S. Dowell, H. A. Schroeder and Hasbrouk DaLamater; visitors, Dr. J. H. Thompson, of Kansas City, and Dr. Solas Cameron, of St. Louis.

Dr. J. H. Thompson read a paper entitled, "The Ocular Manifestation of Tuberculosis." Dr. W. T. Lindley, of Hamilton, read a paper entitled, "The Non-Surgical Treatment of Endocervicitis." Dr. B. F. Carr, of Polo, read a paper entitled "Suggestion—Its Use and Misuse in the Cure of Disease." Dr. W. T. Lindley made a verbal report of a case of lupus erythematosis, showing a photograph of same.

Under the head of miscellaneous business the issuing of transfer cards by the secretary to Dr. C. M. McConkey to the Clinton County Medical Society, and one to Dr. Hasbrouk DaLamater to Jackson County Medical Society, was approved. Breckenridge was selected as the next place of meeting, on the second Wednesday of January.

The election of officers for the year 1908 resulted as follows: Dr. R. L. Mount, Polo, for president; Dr. W. H. Aplin, Hamilton, vice-president; Dr. Tinsley Brown, Hamilton, secretary and treasurer; Drs. W. T. Lindley, J. A. Waterman and J. O. Wilkerson, censors; Dr. C. O. Dewey was elected delegate to State Medical Association, and Dr. W. T. Lindley essayist. Drs. Goins, Dowell, Mount, Duffie, Smith and Gartside were appointed as essayists for the January meeting.

An open meeting of the society was held at night, at which time Dr. C. O. Dewey, the retiring president, delivered an address on the progress of medicine, after which Dr. Solas Cameron, of St. Louis, delivered an address on sanitation and tuberculosis, which was illustrated by stereopticon views. The open session was followed by a banquet given by the Society, which was participated in by the doctors, their wives and invited guests. This was by far the most interesting meeting our Society has ever held.—TINSLEY BROWN, M. D., Reporter.

CLINTON COUNTY MEDICAL SOCIETY.

The Clinton County Medical Society met in the courthouse at Plattsburg, October 15.

Upon motion of Dr. McConkey, the society resolved to meet monthly in future. The next meeting will be at Perrin.

Dr. C. M. McConkey read a paper, entitled "A Plea for Better Examination of the Ears and Eyes in General Practice." The paper was practical and well written, giving much food for thought and investigation. Cases were cited in which these organs might become affected. The discussion brought out many points of interest.

Dr. Frank Fulton read a paper on "Proctitis." Taking up the different phases of the disease, he drew upon his experience and cited a case of dilated sphincter that he is now treating. He then spoke of the treatment in a general way and gave his preference for treating different conditions. The discussion was full and interesting.

Dr. P. M. Steckman read a paper on "Meningitis" and after giving a general outline of the disease, reported a few cases. He had noted that a diseased condition of the ovaries and barrenness sometimes followed, and asked other physicians to report whether they had observed similar sequelæ.—P. M. STECKMAN, M. D., Secretary.

GREENE COUNTY MEDICAL SOCIETY.

MEETING OF OCTOBER 2ND.

The Post Graduate Course: Dr. B. F. Fortner gave an interesting lecture on "Intra-Abdominal Suppuration;" he spoke principally on appendicitis and diseases of the gall bladder.

MEETING OF OCTOBER 9TH.

Dr. C. A. Moore presided at the meeting, the subject for consideration was "Fractures in and About the Elbow Joint." Dr. C. B. Elkins made an interesting talk on the subject and advised a very guarded prognosis; an Esmarch bandage, from the hand up, to reduce the swelling, and usually an anesthetic in correcting the injury or making the diagnosis; passive motion should not be used too soon where there has been a fracture into the joint.

Dr. C. A. Tucker, in discussing the subject, read a carefully prepared paper, and said in part: The diagnosis usually is not very difficult if crepitation is present; it is not easy to retain the fragments in position; the elbow should be fixed with splints at right angle or extreme flexion, but be careful not to compress the brachial blood vessels and nerves; the fleshy part of the arm should crowd the fragments into place and hold them there; there is no danger of ankylosis while the fragments are uniting; passive motion should usually be commenced by the fifteenth day and continued for three or four weeks; if there is much stiffness, we may have to use considerable force in flexing and extending the arm until all signs of ankylosis are gone; pronation and supination should also be looked after; the greatest trouble with fractures about the elbow joint is ankylosis, so passive motion should be commenced early and form an important part of the treatment.

The subject was discussed by Drs. Nixon, Dewey, Cox and Camp.—J. L. ORMSBEE, M. D., Secretary.

HOLT COUNTY MEDICAL SOCIETY.

The Holt County Medical Society met in Oregon, October 10th. Those present were Drs. Kaltenbach, Davis and Miller, from Craig; Dr. J. C. Tracy, from Mound City; Drs. Bullock and Chandler, from Forest City, and Drs. Evans, Simmons and Proud, of Oregon. Dr. F. E. Bullock read a paper on "Gunshot Wounds," illustrating the subject with enough ammunition of different kinds to stock an arsenal; this was followed by a general discussion. Dr. J. M. McClannahan, of

Forbes, and Dr. Elmer Kearney, of New Point, were admitted as members of the County and State Associations. The next meeting will be held in Maitland, on the 6th of November, as the Society now meets every two months.

HOWARD COUNTY MEDICAL SOCIETY.

The Howard County Medical Society met at Fayette, November 6th. Those present were Drs. Hume, Wright, Richards, N. E. Smith, C. P. Magee, Thompson and C. W. Watts.

Drs. Wright and Smith presented a case of cancer of pancreas and stomach.

Drs. Smith, Richards and Thompson reported cases of diphtheria. A motion was made and carried that our representatives at Jefferson City work for a law for preserving the vital and mortuary statistics, and that the secretary be requested to so inform them by letter.

Election of officers for 1909 resulted as follows: President, Dr. J. B. Fleet, New Franklin; first vice-president, Dr. U. S. Wright, Sr.; second vice-president, Dr. T. R. Champion; secretary and treasurer, Dr. C. W. Watts; censors, Drs. Thompson, N. E. Smith and Richards; Dr. V. Q. Bohnham was elected member of the house of delegates. Dr. H. K. Givens was retained on the committee of legislation, as his time does not expire until August, 1909. He is to act with the State Committee when so requested. The secretary agreed to serve another year, if the members would be prompt in attendance, and pay up their dues by December 31st, 1909.

The society adjourned to meet the first Friday in December.—C. W. Watts, M. D., Reporter.

JACKSON COUNTY MEDICAL SOCIETY.

MEETING OF SEPTEMBER 23.

The first regular meeting following the summer intermission was held in the new meeting place, the Studio Building, which was built to replace the Pepper Building, destroyed by fire May, 1907, and in which the Society had previously held its meetings.

The evening was devoted entirely to business, the receiving of reports of committees being first on the program.

The carbolic acid ordinance, which had been transferred to the Society for action by the city council, following a talk by Dr. Lapp, alderman of the Seventh ward, met with defeat.

The new Nurses' Directory was discussed, as was also the banquet which was to be held one week hence.

There were present 35 members.

MEETING OF OCTOBER 13TH.

Hon. Chas. A. Riehl, assistant prosecuting attorney, addressed the Society, by invitation, in behalf of Prosecuting Attorney Isaac B. Kimbrell, saying that during Mr. Kimbrell's term of office he had done all within his power to prosecute "medical pretenders" and that in the event of his re-election to said office, he would continue to prosecute all medical fakirs if evidence of law infraction were submitted to him.

The speaker of the evening, Dr. L. E. Sayre, professor of chemistry of the University of Kansas, who for twenty years has served as a member of the Revision Board of the U. S. Pharmacopeia, and who was an active worker in the establishment of the Council on Pharmacy, was introduced. The professor's paper, which will be printed in the JOURNAL, will speak for itself. We hope that every member of the State Association will read it carefully, as it handles a very important subject in a masterly manner. Those speaking to the paper were Drs. V. W. Gayle, A. M. Wilson, E. W. Schauffler, F. W. Rathbone, Scott P. Shild and B. H. Zwart.

The following physicians were elected to membership: Carl C. Conrad, W. E. Messenger, Arthur A. Hobbs, G. C. Hall, Jno. G. Hayden.

MEETING OF OCTOBER 27.

The Society, in the absence of the president, was called to order by Vice-President Franklin E. Murphy. It was the first and only time the president, Dr. C. B. Hardin, was not ready to sound the gavel promptly at the meeting hour. He sent word that afternoon that it would be impossible for him to be present and asked the vice-president to be sure and be on hand; this, however, was not necessary, since during the entire year Dr. Murphy has not missed a single meeting, but has always been on hand to preside if need be and take an active part in all subjects, scientific or otherwise, coming up before the Society.

The meeting being the last one in October, it was devoted exclusively to the presentation of patients, pathological specimens and instruments.

Dr. Wm. Frick presented a case of leukoplakia buccalis. Discussion by Drs. Ernest Robinson, Halsey Lyle, W. L. McBride, G. W. Davis and J. N. Scott.

Dr. J. S. Weber presented a case of brain tumor involving the optic chiasm, which was discussed by B. E. Fryer, L. B. Miller, G. E. Bellows and J. W. Sherer.

Specimens were presented as follows: Dr. W. K. Trimble, (a) kidney from patient dying of metastatic hypernephroma. (b) Ovary from case of ovarian pregnancy. (c) Heart, showing vegetative endocarditis of the mitral and aortic valves. (d) Heart, tuberculous pericarditis with adhesions. (e) Skin (negro), syphilitic keloid of labia, gross and microscopic. (f) Hydatid mole, microscopic section.

Dr. Jos. S. Lichtenberg, (a) secretions from eye showing Morax-Axenfeldt bacilli. (b) Secretions from eye showing Koch-Week's bacilli. Discussion by B. E. Fryer, R. B. Brewster and A. W. McAlester.

Dr. W. W. Stevens presented a simple device for administering anesthetics for mouth and nose operations.

There were 63 members present at this meeting.—E. L. STEWART, M. D., Secretary.

LINN COUNTY MEDICAL ASSOCIATION.

The Linn County Medical Association held a very interesting session in the county clerk's office Tuesday evening. The following members were present: Drs. Lane, Polson, F. W. Burke, Eure, Home, Standly, Morris and Haley. Dr. Haley read a very able paper on "Ulcer of the Cornea." Dr. Ola Putnam sent a very interesting paper

on "Operation at Home of Patient," which was read by the secretary. The paper prepared for this meeting by Dr. J. W. Lane was not read but will be read at the next session which will be held at Meadville.

SCOTT COUNTY MEDICAL SOCIETY.

The Scott County Medical Society met at Benton, October 5th, 1908, with the following members present: Drs. G. S. Cannon, W. E. Harris, H. T. Blackledge, J. A. Milem, H. L. Cline, T. R. Frazer, A. P. Haw, R. A. Sparks, S. J. Wade, T. F. Frazer, Hy. Rodenmeyer, W. H. Wescoat and W. S. Hutton.

The scientific program consisted of a paper, entitled "Chloroform in Obstetrics," by Dr. Milem. Dr. Milem stated that he had used this drug in 1200 cases without bad effects. The discussion following the reading of this paper was general.

Dr. Cannon reported cases of malaria. This was discussed by Dr. T. F. Frazer, who stated that in his experience the comatose and algid forms occurred in chronic cases.

A presentation of a case was made by Dr. T. R. Frazer. This was ascites due to hepatitis, probably of malarial origin.

The presentation of a diaper, by Dr. Hutton, showed brown urine stains, in the center of which was deposited a spot resembling brick dust. The age of the patient was ten days. No microscopical examination was made and the members were undecided as to the nature and cause of deposit; the symptoms were those of hemoglobinuria neonatorum.

The thanks of the Society were extended to the Benton doctors for the hospitality shown the members.

Benton was selected as the permanent place of meeting.

Society adjourned to meet the first Monday in January.—W. S. Hutton, M. D., Secretary.

BOOK REVIEWS

ATLAS AND TEXT-BOOK OF HUMAN ANATOMY. Volume III., completing the work. By Prof. J. Sobotta, of Wurzburg. Edited, with additions, by J. Playfair McMurrich, A. M., Ph. D., Professor of Anatomy at the University of Toronto, Canada. Quarto of 342 pages, containing 297 illustrations, mostly all in colors. Philadelphia and London: W. B. Saunders Company, 1907. Cloth, $6.00 net; half morocco, $7.50 net.

This third and last volume of the Atlas includes the remainder of the vascular system and the entire nervous system, together with the organs of special sense. Long years of experience in the dissecting room have led the author to depict the peripheral nerves and blood vessels as the student is accustomed to see them in the cadaver. Consequently in most of the illustrations the arteries and nerves, or arteries, veins and nerves, are shown together in their natural position. This fact has necessitated the reproduction of many of the illustrations in color.

Sobotta's Atlas of Anatomy is to-day one of the most popular text-books of the German student, and the American profession can not fail to be grateful to J. Playfair McMurrich, of the University of Toronto, for his onerous labor in translating this work, and adapting it by numerous important additions to the special needs of the American students.

GONORRHEA, ITS DIAGNOSIS AND TREATMENT. By Frederick Baumann, Ph. D., M. D. Fifty-two illustrations in the text. New York and London, D. Appleton & Co., 1908.

This little volume is a concise digest of the diagnosis and treatment of the gonorrheal infections of the lower genito-urinary tract. The writings of Oberländer and Kollmann, according to the statement of the author, have been extensively consulted in the preparation of this useful book.

SYPHILIS. A TREATISE FOR PRACTITIONERS. By Edward L. Keyes, Jr., A. B., M. D., With 69 Illustrations in the text and 9 plates, seven of which are colored. New York and London. D. Appleton and Co., 1908.

This is a practical work, its text based upon the classified cases taken from the private office books covering forty years of continuous work of the author's father, ten years of work in the same field by the writer himself, and some gleanings from the twenty extra years included in Dr. Van Buren's case books,—which had been inherited—making a retrospect of sixty years of practical experience in the treatment of 2,500 cases, of which complete records had been kept. It seems necessary to emphasize this fact in order to appreciate the unusual opportunity offered the author to write a text-book on syphilis which actually covers the subject completely and deals with all the phases and aspects of this complex disease.

The volume must prove of unusual interest and advantage to the practitioner since it is devoted not alone to a thorough consideration of the etiology, diagnosis and therapy of syphilis, but in many chapters elucidates the relation of this dread disease to affections of the nose, eyes, nervous system, and all internal organs. The illustrations and book work are excellent.

AMERICAN MEDICAL ASSOCIATION.

Next Annual Meeting at Atlantic City, N. J., 1909.

President: HERBERT L. BURRELL, Boston.
President Elect: WM. C. GORGAS, Ancon, Panama.
Secretary and Editor: GEORGE H. SIMMONS, 103 Dearbon Ave., Chicago.

MISSOURI STATE MEDICAL ASSOCIATION.

Next Annual Meeting, Jefferson City, May 18, 19, 20, 1909

President: A. R. KIEFFER, St. Louis.
Vice Presidents:
D. B. FARNSWORTH, Springfield; W. J. FRICK, Kansas City; J. B. NORMAN, California; C. H. DIXON, Holliday; M. A. SMITH, Gallatin.
Secretary: A. W. McALESTER, Jr., Kansas City.
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